



HOSPITALS

215



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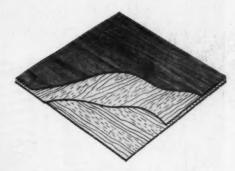
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ARCHITECTURAL RECORD (Vol. 116, No. 4, October, 1954) is published monthly by F. W. Dodge Corporation, 10 Ferry Street, Concord, N. H., with editorial (Regular Edition) and executive offices at 119 W. 40th St., New York 18, N. Y. \$5.50 per year, Foreign, \$20.00.

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#### ARCHITECTURAL RECORD

October 1954 Vol. 116 No. 4

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OFFICES . SCHOOLS . LABORATORIES . HOSPITALS . INDUSTRIAL PLANTS

#### THE RECORD REPORTS

#### PERSPECTIVES

EVERY ARCHITECT loves the line of Jaunty Junior fashions"—so says an advertising spread currently running in some of the magazines. Ad Alley and the fashion world have found out about architects, by gad!

ILLUSIONS — WHERE ARE THEY? The Architects' Journal's Astragal, whom it is almost impossible not to quote every so often, had some comments a while ago on "the contemporary interior" for which some may find a wider application. Says Astragal: "From time to time nearly everyone must have a moment of doubt when he wonders if there isn't something missing from the contemporary interior, when he wonders if all these deep textures, primary colors, natural materials, selected antiques, aren't all a bit too real. Our ancestors never sentenced themselves to constant exposure to the truth, they had their fakes and their illusionistic gimmicks, but where are ours?"

SCHOOL KEEPS AGAIN this year with the problem of new facilities to meet ever-mounting enrollments still of urgent concern in communities across the nation. U.S. Commissioner of Education Samuel M. Brownell, announcing the results of the annual survey of the U.S. Office of Education on prospective school enrollments, said the present rate of school construction, though highest in U. S. history, will have to be nearly tripled to keep pace with the number of children to be educated. The Office of Education expected an enrollment of 38 million 23 per cent of the country's total population — in schools and colleges during 1954-55. But Commissioner Brownell warned that the highest peaks are yet to come. "By 1959-60 the enrollment in elementary and secondary schools and in colleges and universities will rise to approximately

46 million. . . . To accommodate the growing number of children, to erase the estimated September 1954 shortage of 370,000 classrooms, and to take care of continued obsolescence, approximately 720,000 public elementary and secondary school classrooms and related facilities will be needed during the next five years." The Commissioner predicted that the forthcoming state conferences on education urged by President Eisenhower and financed in part by Federal funds authorized by the Congress, and to be followed by a White House Conference on Education next year, "will stimulate the greatest citizen-study and citizen-action in behalf of the education of the country's children we have ever had."

A CHALLENGE TO ARCHITECTS and the threat of a sort of architectural miscegenation are both inherent in the solution adopted by some communities to the dilemma posed by school building shortages and local financing difficulties. In towns as far apart as El Paso, Tex., Jackson, Mich., and Centereach, L. I., the one-room school is back — this time designed for conversion into a "ranch-type" house when improving finances make "real" schools possible or decreasing enrollments reduce classroom needs.

THE BEST TIME TO BUILD IS NOW, according to the U. S. Chamber of Commerce. A recent newsletter of the Chamber's Construction and Civic Development Department cites plentiful supplies of building materials, stable prices and wages, lower interest rates, tax reforms under the Administration's new law, and "much keener" competition among contractors which is shaving profits more closely, as providing a climate in which construction customers can

get more for their money than in any year since before World War II. F. W. Dodge Corporation figures on 1954 construction contracts awarded in 37 states east of the Rockies suggest that a good many customers have already come to this conclusion—in August, for the eighth straight month, dollar volume of contracts awarded reached an all-time high for the month; it looked very much as though 1954 would set a new construction record.

RESPONSIBILITIES OF THE ATOMIC AGE "must either mature or ruin us," John Jay Hopkins, president and chairman of General Dynamics Corporation, told a recent American Management Association conference. Mr. Hopkins, whose company pioneered development of the nuclear reactor for the Navy's new submarine Nautilus, foresees broad uses of atomic energy in the "near future" presaging an "atomic revolution" accompanied by broad changes in living habits, customs and values. Export of atomic resources, he said, could bridge the gap between the "have" and "have-not" areas; realization of the best potentialities of the atomic revolution could lead to an end of war and a new way of life that would eliminate Communism from the world.

Our readers write: A lady from Austin, Minn., who says she became acquainted with the Record at the St. Paul Public Library, feels it is "unfortunate smaller cities do not subscribe to Architectural Record instead of two subscriptions to fashion magazines." And an equally perceptive gentleman, at the moment an Army private at Fort Sill, wants to know, "Now that my three-year subscription is expiring, how do I arrange a lifetime subscription?"

#### THE RECORD REPORTS





#### PRATT SENIOR THESIS WINS \$20,000 CHICAGO PRIZE

Loop Redevelopment Charted by 106 Entries in Carson-Pirie-Scott Centennial Competition

Four young New York Architects whose entry also served as their graduating thesis at Pratt Institute last spring and the Pratt associate professor who was their design critic have won the \$20,000 First Award in the Carson-Pirie-Scott Centennial Competition in City Planning. The competition for a general plan for the redevelopment and improvement of Chicago's Central Commercial District drew 106 entries from 22 states and three foreign countries; there were eight cash awards totaling \$32,500 and 11 honorable mentions.

The First Award winners: Herbert A. Tessler, 23; Leon Moed, 23; Joseph A. D'Amelio, 22 (now a Fulbright Scholar in Italy); William H. Liskamm, 22 (now a Fulbright Scholar in Germany); and William N. Breger, 33.

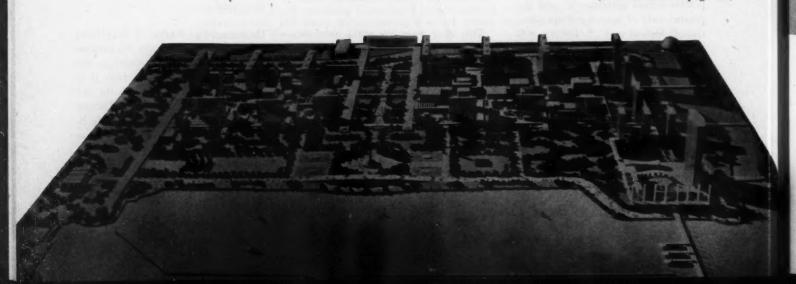
The Second Award of \$7500 was won by a team consisting of Wilhelm Viggo von Moltke, 43, architect and chief of the land planning division of the Philadelphia City Planning Commission (team leader); Hans George Egli, 29, architect, Philadelphia; and Irving Wasserman, 28, landscape architect, David Hodges Karp, 22, architect, and Robert F. Kitchen 25, and Clifford B. Slavin, 27, planning designers, all of the Philadelphia City Planning Commission.

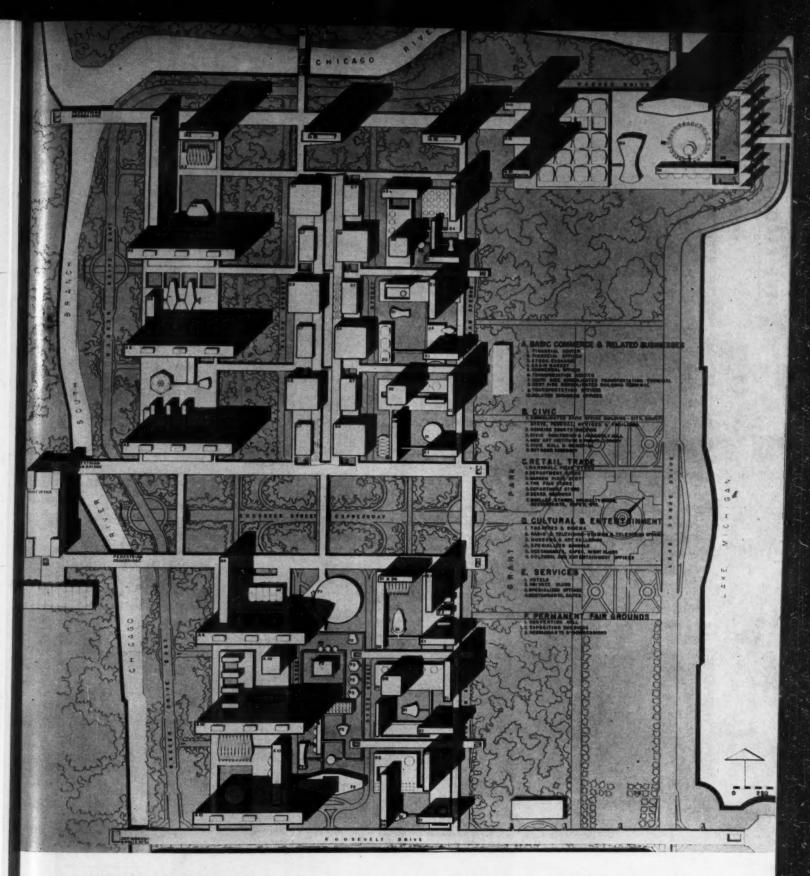
Winners of the \$2500 Third Award were "Pace Associates," an 11-man team of whom nine are members of the Chicago architectural firm of the same name — John F. Kausal, 44, architect (team leader); Charles B. Guenther, 47, architect; Albert A. Goers, 45, architect and engineer; Mace de Buy Wenniger,

30, planner; John T. Black, 37, architect; and W. H. Binford, W. B. Cobb, and K. D. Farwell. The two independent members of the team: Graham Aldis, 58, partner in the Chicago real estate firm of Aldis and Company, and Robert S. Cushman, 50, partner in the Chicago law firm of MacLeish, Spray, Price & Underwood.

The jury, which congratulated the sponsor on making, through the competition, "the first really broad contribution [to Chicago city planning] since Daniel H. Burnham," considered the first three awards "as a unity" providing among them the three essentials of a satisfactory plan as the jury saw them: the goal, the way, and the means. "Together," said the jury report, "these three plans make a significant contribu-

(Text continued on page 328)





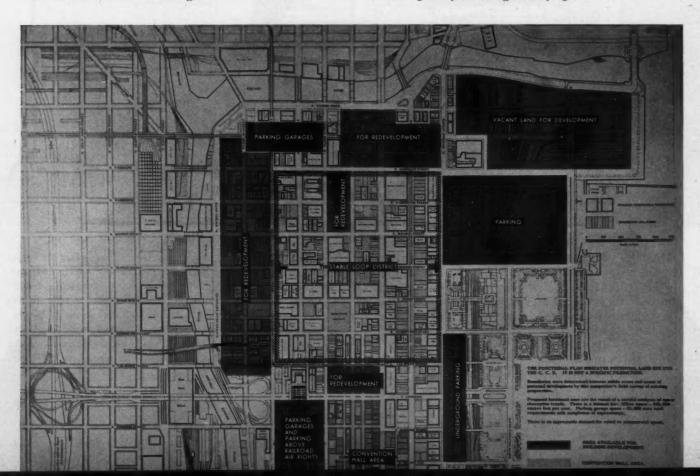
FIRST AWARD WINNER (model photo across-page, reproduction of presentation board showing scheme in final stage above) covered broader area than competition required — north to Roosevelt Road (broken white line on aerial photo across-page top). In this fourth, or completion, stage are shown locations of all essential functions of the Central Commercial District: Basic Commerce and Related Businesses, Civic Development, Retail Trade, Cultural and Entertainment, Services and Permanent Fairgrounds (see key as shown on board). The jury commented: "This plan stands out above any other.

plan presented for its clear organization in having solved the essential functions of the Central Commercial District, having presented a well-ordered and clearly defined plan for the ultimate development of the District. . . . It is not necessary to accept the First Award presentation literally in all its aspects but rather as representing a scheme of organization, subject to a considerable degree of variability as the future unfolds. . . . It calls ultimately for maximum effort, resources and change, but the ultimate goal was analyzed by the Jury as being well worth the trouble"

For Second and Third Awards, see page 12

SECOND AWARD WINNER (one of the presentation boards reproduced above) proposed creation of a series of projects around the Central Commercial District as "anchors" for future redevelopment. "The Second Award presentation," said the jury, "essentially represents an intermediate step toward the attainment of the kind or type of goal envisioned in the First Award presentation. . . . It creates a physical pattern and framework within which the whole area might ultimately be recreated . . . illustrates the greatest improvement which can be made with the least effort"

THIRD AWARD WINNER (one of the boards shown below) outlined areas in the Central Commercial District which are most suitable for redevelopment, development or parking. The jury praised the entry as "a serious professional study of existing conditions and potentials of early redevelopment" and noted that in its proposal for a Central District Commission it provided a legal, financial and administrative mechanism which could "guide private development in the directions embodied in the First Award plan" but found the ultimate "goal objectives" difficult to judge



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Multiple accordion aluminum envelops large volumes of air and creates layers of air spaces **only** as it is opened when finally stapled in place. This air is **really** free.

With respect to radiant heat flow, the aluminum sheets have 97% reflectivity, and 3% absorptivity and emissivity. Low conduction results from the preponderant air spaces of low density. The layers of multiple aluminum and fiber retard inner and outer convection. The tough aluminum sheets are almost impervious to vapor. Infiltration under flat stapled flanges is slight. Condensation formation on or within is minimized by the scientific construction.

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The AMERICAN SOCIETY OF HEATING VENTILATING ENGINEERS has published a booklet which describes convection, conduction, and radiation heat flow through *ordinary* air spaces and what happens when an ordinary building space is lined or subdivided by reflective metals, thus creating reflective air spaces. Ask us for a copy — it's free.

\*Patent applied for.

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#### THE RECORD REPORTS

#### SCHOLARS ARE WANTED IN LANDSCAPE ARCHITECTURE

An address by Brazilian Landscape Architect Roberto Burle-Marx (see pages 145-151), another by Reginald R. Isaacs chairman of the Department of City Planning and Landscape Architecture of Harvard's Graduate School of Design, and an editors' panel discussion on publication requirements were highlights of the 1954 annual meeting of the American Society of Landscape Architects at the Hotel Somerset in Boston.

Professor Isaacs called for more scholars in landscape architecture and thus more literature for landscape architecture libraries; he urged the profession to encourage development of other Ph.D. programs in landscape architecture than Harvard's, currently the only one in the world. Also needed, said Professor Isaacs, is a full-scale public relations program for the profession.

The editors' panel included Harold S. Buttenheim, editor of American City Magazine; Frank G. Lopez, senior editor of Architectural Record; and Ogden Tanner, associate editor of Architectural Forum.

Awards in a nationwide competition sponsored by A.S.L.A. went to the following landscape architects: Simonds and Simonds, Pittsburgh (two awards); Clarke and Rapuano, New York; Wheelwright, Stevenson, Langran and Fanning, Philadelphia; Shurcliff and Shurcliff, Boston (three awards); Olmsted Brothers, Brookline, Mass.; Emmet





LANDSCAPE ARCHITECTS HERE AND ABROAD—Above, at annual meeting of American Society of Landscape Architects, in Boston: (left) Sidney N. Shurcliff, Boston, A.S.L.A. vice president, Leon Zach, Washington, A.S.L.A. president, Raymond H. Otto, Amherst, Mass., Lester Collins, Boston, and Arthur G. Barton, Los Angeles, competition jurors, with panel showing future plan for Franklin Park Zoo, Boston, which won award for Shurcliff & Shurcliff; (right) Independence Mall scheme (Wheelwright, Stevenson, Langran & Fanning, landscape architects; Harbeson, Hough, Livingston & Larson, Philadelphia, architects; George Howe, consultant) was another award winner—Markley Stevenson with Mr. Zach and the jurors. Below, at 4th Congress of International Federation of Landscape Architects in Vienna: (left) Gustav Amman, Switzerland, Hubert B. Owens, Athens, Ga. (American delegate) and Walter Leder, Switzerland, new I.F.L.A. president; (right) Mme. Ulla Bodorff, Sweden, new I.F.L.A. treasurer, and Herr Leder with members of the Host Committee





Layton, St. Louis (two awards); and Ethelbert Furlong, Glen Ridge, N. J.

Honorable Mentions went to Simonds and Simonds; Morrill and Sauers, Chicago; Eugene R. Martini, Atlanta (two mentions); Sam L. Huddleston, Denver; Robert L. Zion and Beatrice L. Zion, New York City; and a special mention to R. Coelho-Cardozo and S. Osborn-Coelho.

#### LANDSCAPE ARCHITECTS HOLD VIENNA CONGRESS

Twenty-one nations sent representatives to the Fourth Congress of the International Federation of Landscape Architects, held in Vienna June 7–12. Hubert B. Owens, chairman of the Division of Landscape Architecture of the University of Georgia, American delegate, represented A.S.L.A.

Tours of Vienna's numerous new parks, *strandbads*, housing projects, schools and playgrounds were an outstanding feature of the Congress, Professor Owens reports; and the Congress was followed by a six-day autobus tour of Austria.

There were two exhibits—one depicting the historical development of landscape design in each of I.F.L.A.'s member countries from prehistoric times to 1900; another presenting in plans, photographs and models examples of landscape architecture projects developed since 1945 in member countries. Especially noteworthy, according to Professor Owens, were the displays from Denmark, Germany, Switzerland, Israel and Japan.

Walter Leder of Switzerland was elected president and Sidney Shurcliff of Boston was one of three vice presidents named. The next meeting will be held in Switzerland in 1956.

(More news on page 16)



-Drawn for the RECORD by Alan Dunn

#### NORTHWEST ARCHITECTS MEET AT EUGENE

The Third annual conference of the Northwest Regional Council of the American Institute of Architects was held August 20–22 at the Hotel Eugene in Eugene, Ore., with 159 architects and their wives and guests in attendance.

The program, directed especially at the young architect, focused on design and the architect's responsibility to "his nation, his region, his state and his community." Speakers included Harwell Harris, director of the School of Architecture of the University of Texas; William Tugman, editor of the Eugene Register-Guard; Robert Anshen, San Francisco architect; Mark Sponenburg, Eugene sculptor and professor at the University of Oregon; and Sig Unander, 35-year-old Oregon State Treasurer and

in Architecture": "A national expression is the result of the accident of time and place . . . Architecture to be really great must express freedom and, above all, that love of the physical world which is a product of regionalism, and the image of the quality the people want to believe expressive of themselves and their nation. That will unite them in a great national expression."

Robert Anshen's subject was mass housing and he called for an increased use of architects' skills and an increased application of mass production techniques to improve it.

Mr. Tugman, long an outspoken supporter of long-range community planning, told the conference: "The architects must carry the greatest challenge "Great art," he said, "is the result of the collaboration between man and his ideal universal expression of faith."

ZIROTZE GROSZE REPORTS

"Apprenticeship and Registration" was discussed at one of the two breakfast sessions, with President Robert L. Durham of the Washington State Chapter speaking for the employer and Donald Lutes of Eugene for the employe. "Young men in architecture," said Mr. Durham, "must be aware of certain problems in the practice of architecture or they will not get recognition for their problems. Number One is how to stay in practice at all. The responsibility of meeting the payroll is a big one." Young men will function more effectively on the office team. Mr. Lutes suggested, if their office assignments contribute to







Snapshots from the third annual conference of the Northwest Regional Council at Eugene, Ore. (left to right): Waldo Christenson of Seattle, A.I.A. Northwest regional director, with Robert Wilmsen of Eugene, general chairman of the conference; Paul Thiry of

Seattle introducing Harwell Harris, director of the School of Architecture at the University of Texas, for one of his two conference speeches; Sig Unander, Oregon State Treasurer (speaking), J. Holman Barnes, president of the Oregon Chapter, and Mrs. Barnes

member of the three-man Board of Control for the state. A popular innovation of the program was the scheduling of "group seminars," which provided time for small-group discussion of some of the major speeches, with a leader for each group — Walter Gordon of Portland, Robert Price of Tacoma and Paul Thiry and Robert Durham of Seattle.

Expression in architecture was the subject of two speeches by Harwell Harris. On "A Regional Expression in Architecture," Mr. Harris said: "Regionalism is a state of mind, not a matter of materials nor a way of building . . . free minds, imagination, a stake in the future — these make up the state of mind; and the climate, the topography and the materials of the region make up the conditions for any regionalism worth preserving." Of "A National Expression

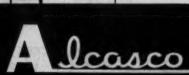
to the people of the Northwest to rebuild our cities to meet the needs of modern living, and the coming years offer tremendous opportunities to the architect."

Sig Unander, voicing his opposition to any move to appoint a state architect in Oregon, asked the architects' aid for the state in "getting something which is both functional and beautiful for the money available." There was a quick response to this plea; at the final session of the conference it was announced that a committee of architects would be appointed to confer with the board of control on the state's architectural problems.

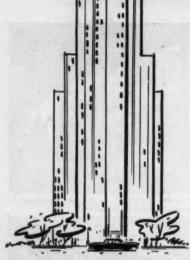
Architecture and the allied arts can never supplant each other, Mr. Sponenburg pointed out, and will reach their highest level only in collaboration. their continuing development, if they receive some recognition in the office, if they are able to feel some security in their jobs. "Apprenticeship should be a positive training period," he said. The conference adopted a resolution setting up a committee in each chapter to study means of bridging the gap between school and practice for the young man in architecture.

At the other breakfast session, Wallace Hayden of Eugene, Professor of Architecture at the University of Oregon, summarized the philosophy implied in the talks heard at the convention. Robert Price of Tacoma replied to Mr. Lutes' talk from the point of view of the young architect in private practice; and Elisabeth Thompson, the Record's western editor, gave an editorial summary of the convention.

(More news on page 20)



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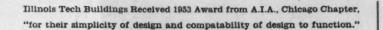




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Left: Chemistry Building . Below: Metallurgical



Below: Carman Hall

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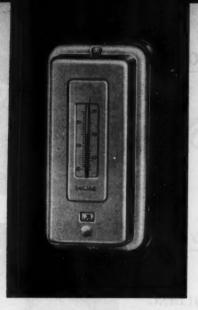
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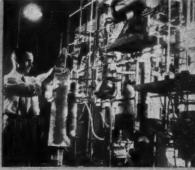


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**Acoustical Research Chamber** 



Vacuum Fusion Test Annaratus



AC Network Calculator

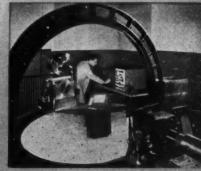
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#### THE RECORD REPORTS:

Architecture for Industry

#### GM UNDERTAKES BUILDING OF 30 TRAINING CENTERS

A TRAINING PROGRAM calling for the erection of 30 training centers throughout the country has been initiated by General Motors Corporation. The centers will be used to train dealers' mechanics; in the event of war, they will be converted for instruction in the production of war products.

The schools will vary in size, containing from four to nine classrooms. A typical center might include classrooms for each of the GM divisions (Chevrolet, Buick, Fisher Body et al.); the rooms will be equipped with special tools for the instruction of automotive mechanics, and all are to be acoustically treated. Each of the schools will have an assembly room, a meeting room and a cafeteria.

GM commissioned five architectural firms for the project, each of them to design a group of centers; others were designed by the company's Argonaut Realty Division.

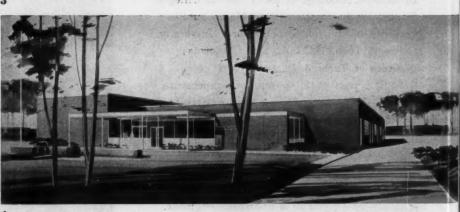
Six of the training centers have already been opened, and 12 more are expected to be completed by the end of the year.

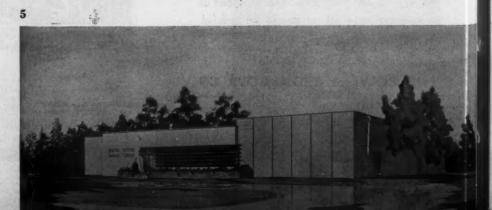
1. Tarrytown, N. Y.; Allen and Kelley, architects. 2. Burbank, Cal.; Earl Heitschmidt, architect. 3. Atlanta, Ga.; George L. Dahl, architects and engineers. 4. Clarence, N. Y.; Smith Hinchman & Grylls, Inc., architects and engineers. 5. Houston, Tex.; Wyatt C. Hedrick, architect and engineer













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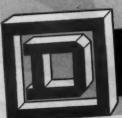
Flexibility. Complete sections or branch units can be added or changed to meet specific job requirements.

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## STANFORD STUDY OF WOOD PRODUCTS CONSUMPTION PROJECTS EXPANDING CONSTRUCTION BOOM TO 1975

A \$51.7 BILLION CONSTRUCTION INDUSTRY in a nation with a population of 212 million, a total work force of 90.7 million, a gross national product of \$586 billion and disposable (after taxes) personal incomes totaling \$367 billions—more than the gross national product of 1953—is forecast for 1975 in Stanford Research Institute's report on a year of research for the Weyerhaeuser Timber Company on "America's Demand for Wood 1929–1975."

The report anticipates major increases in the domestic production and consumption of pulp, paper and paperboard products, plywood and veneer and hardboard and insulating board; only moderate changes from their 1952 levels are foreseen for domestic consumption and production of other forest products, although prices are expected to continue to rise more rapidly than those of competing materials.

#### **Building and Lumber**

Floor Areas - Sq Ft

Construction will continue to account for some 73 per cent of U. S. lumber con-

#### 1975 Construction Outlook

The expected increase in lumber consumption is based on the estimate of a 1975 construction volume of \$51.7 billions — residential construction of \$19.5 billions (compared with \$11.8 billions in 1953) and nonresidential of \$32.2 billions (\$20.5 billions in 1953), including industrial, commercial and public utility construction of \$5.1 billions (\$2.7 billions in 1953); and military and naval construction of \$.5 billions (\$1.4 billions in 1953).

Consumption of lumber per dwelling unit declined 44 per cent from 1920 to 1953, and continuation of the decline is expected to bring 1975 lumber consumption per dwelling unit 17 per cent below 1953 levels. In non-residential construction, the expected decline, figured in bd ft of lumber consumed per dollar of nonresidential construction expenditure, is "about 45 per cent."

#### The Impact of Architecture

The impact of architectural change on lumber consumption in residential

market" came in the three years 1950-1953 and is attributed by the report to the growing popularity of slab-type construction, which cut into lumber's markets for foundations, floor framing, subflooring and finished flooring. Not only could slabs be installed at a lower cost than conventional foundations, Stanford notes, but "additional savings by using low-cost composition tile in place of hardwood flooring result in an even wider cost spread between the two types of construction." According to the report, "large-scale builders are installing about 80 per cent slab floors now. Since about 75 per cent of all residential floor space in new construction is on the ground floor, it is possible that about 60 per cent of all new residential floor space might be in slabs by 1975." While assuming that the trend to slabs will continue, the report notes also that "some limit must be recognized"e.g., disadvantages of slab construction on sloping terrain and cost disadvantages of cement in some sections of the country.

#### More Plywood Expected

Plywood consumption is expected to continue its rapid expansion. In residential construction, the Stanford projections anticipate these increases in millions of sq ft consumed from 1953 to 1975: foundations, 5.6 to 7.2; floors, 184.1 to 254.2; ceilings and interior walls, 52.0 to 211. 2; roofs, 398.9 to 779.1; exterior walls, 244.6 to 308.3.

Consumption of building boards has increased more than tenfold since 1929 and continuing increases, in the case of hardboards more than doubling present consumption, are forecast.

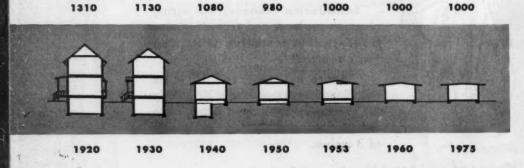
The report states all dollar amounts in terms of 1952 price levels and bases its projections on three general assumptions: no all-out war but continuation of a high level of military preparedness; no radical advances in technology affecting the rate of production; more stability in business cycles in future years than in the past 25, accompanied by high, but not full, employment.

Copies of the report are available from the Weyerhaeuser Timber Company, Tacoma Building, Tacoma 1, Wash.

(More news on page 26)

#### THE CHANGING CHARACTERISTICS OF THE DWELLING UNIT

(U. S. Composite Average)



sumption, according to the Stanford projections; but construction use is expected to be centered increasingly in new residential building, with a smaller share going into nonresidential construction: despite the expected increase of more than four million bd ft in annual residential building use by 1975, total lumber used in construction is expected to increase by only 1.7 million bd ft.

construction is reflected in the statistics. About half the decline in lumber use from 1920 to 1953 was due to changes in size and architecture of dwelling. Lower roof pitch, the trend to single-story dwellings, the drop in average ceiling height all have contributed to market losses for lumber.

But the most rapid decline in lumber's percentage of the "maximum possible

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For maximum comfort and safety in hospital corridors, Holophane engineers introduce an altogether new lighting unit, No. C-824. It's "three-dimensional" control sends useful light in all directions -up to the ceiling-across to the walls-as well as down to the floor. Reflections from these surfaces produce balanced lighting of high efficiency and low brightness. The redirection of the light, avoiding the glare area, provides the best level of visual comfort for those in the corridor. Moreover, No. C-824 may be economically installed and economically maintained.

Architects, engineers and hospital authorities are invited to inquire for complete data, without obligation.



Diagram of Control Features

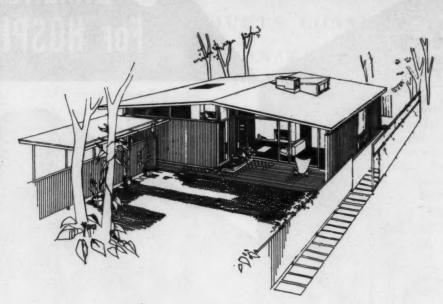
Lighting Authorities Since 1898 . 342 MADISON AVENUE, NEW YORK 17 N.Y

#### THE RECORD REPORTS

# 

15

#### NEWS FROM CANADA By John Caulfield Smith



#### "HOME '54" SELECTED IN NATIONWIDE COMPETITION

FIRST PRIZE in the Home '54 Competition went to George S. Abram, it has been announced by Canadian Home Journal, sponsors of the annual contest. Mr. Abram, a member of the Toronto firm of Craig & Madill, was awarded \$1100 for his design and \$750 for his working drawings, as well as feature publication in the magazine. The magazine's promotion scheme also includes its offer to readers of a Building Kit containing detailed plans and full specifications for the house, available for a \$10 fee. (Mr. Abram's design shown above.)

The second prize, of \$850, was awarded to Page & Steele of Toronto; Peter Dickinson, also of Toronto, received the \$250 third prize. Honorable mentions, worth

\$100, went to John Ma and to Gibson & Pokorny, both of Toronto, and to Leo O. Lund, of Victoria, B. C. The annual competition, initiated last year, is open only to registered architects and this year attracted entries from eight of the 10 provinces. The sponsor's intention is to encourage house design suitable to the Canadian climate and family.

#### Designed for Conversion

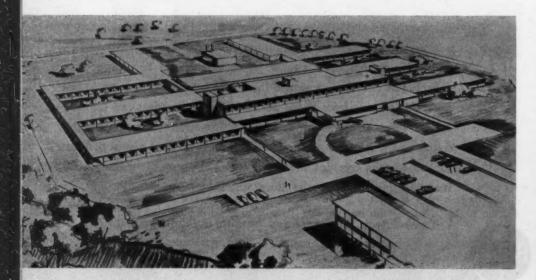
The program for this year's competition required a design for a family of four: parents, son and daughter of secondary school age. The house was to be planned to permit rapid conversion for two-family use after the children had married and the parents were living on

reduced retirement income. Floor area was limited to 1500 sq ft.

Mr. Abram's design will be built in the Don Mills community near Toronto, and was opened for public inspection in September.

Judges in the Home '54 Competition were: Gordon S. Adamson, past president of the Ontario Association of Architects; W. Gerald Raymore, associate professor of architecture, University of Toronto; Mary-Etta Macpherson, editor, Canadian Home Journal. Douglas G. W. McRae, director of the School of Architectural Technology at the Ryerson Institute, Toronto, served as professional advisor.

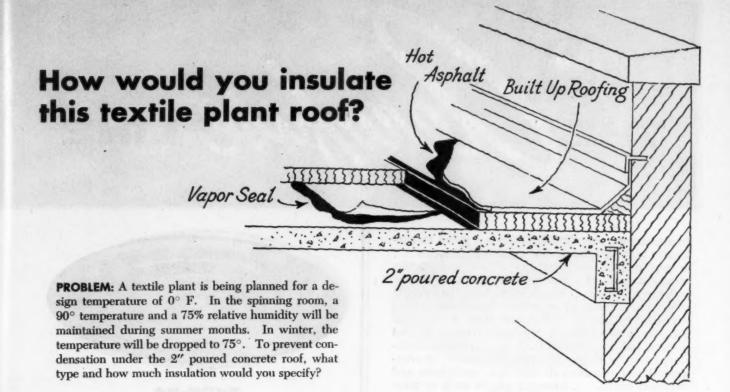
(Continued on page 30)



#### NEW PLAN CONCEPT USED FOR PROTOTYPE HOSPITAL

PLANS FOR QUEENSWAY HOSPITAL in Ontario separate patients requiring active treatment from those convalescing. The design, which is expected to reduce building costs by 25 per cent, will place active treatment cases in the two-story main building and recovery rooms in the single story wings. A heliport located on the roof will be used for rapid ambulance service.

Architect Auguste Martineau, of Kingston and Ottawa, designed the building for the Ontario Department of Health. A similar hospital is planned for Niagara Falls.

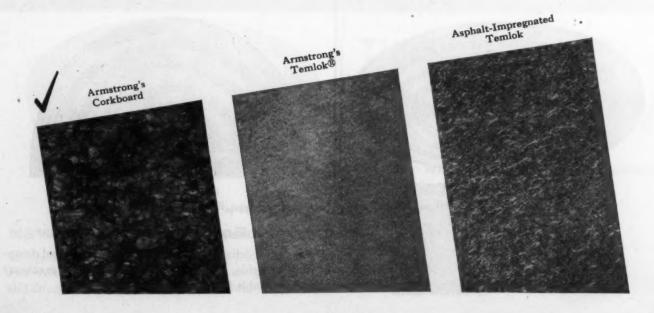


**SOLUTION:** The relatively high humidity of the spinning room suggests a heavy-duty application. Considering the 75° interior temperature in winter and the 0° design temperature, 1 inch of Armstrong's Corkboard should be sufficient to prevent condensation. However, to bring the Ü-factor down to 0.15 and thus make it more economical to hold temperatures and humidities, many architects would recommend 1½ inches of corkboard.

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Every roof insulation job has its own requirements, of course. Where conditions are less demanding, or cost is the deciding factor, you may want to specify Armstrong's Temlok. An efficient, low-cost fiberboard material, Temlok is available in both regular and asphalt-impregnated types. For full details on any of Armstrong's roof insulations, contact your local Armstrong office or write Armstrong Cork Company, 3810 Rock St., Lancaster, Pa.

## ARMSTRONG'S ROOF INSULATIONS



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Adjustable pattern diffuser



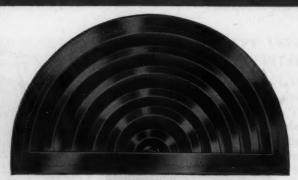
TYPE PR
Flush type, fixed pattern supply and return diffuser



TYPE PLF
Flush type, fixed pattern diffuser combined with light fixture



TYPE S
Flush type, fixed pattern diffuser



TYPE H
Flush type, fixed pattern half-round diffuser

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TYPE PH
Flush type, fixed pattern, half round diffuser



Flush typę, fixed pattern square diffuser



Stepped-down type, fixed pattern diffuser

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**NEW BRITAIN, CONNECTICUT** 



#### THE RECORD REPORTS

CANADA

(Continued from page 26)

#### EXHIBITS ORGANIZED BY PROVINCIAL ARCHITECTS

In a spirit of enlightened self-interest, the Ontario Association of Architects has assembled four photographic exhibitions covering various building types - schools, civic buildings, hospitals and

DIRECTOR: DR. ALBERT W. SNOKE

ARCHITECT: DOUGLAS ORR, NEW HAVEN



DIET KITCHEN MEMORIAL UNIT

GRACE-NEW HAVEN COMMUNITY HOSPITAL

NEW HAVEN, CONN.

The Civic Health Center, in Regina, Sask., was designed to consolidate all the municipal health services under one roof. Architects were the Regina firm Portnell & Stock

one general exhibit, which includes industrial, commercial and residential design. The exhibits are available to all interested groups, and each of the collections has been shown at at least one convention this year.

The Alberta Association of Architects entered a display in the Edmonton Better Homes Exposition, held September 24 to October 2. Arthur Henderson, the chapter's public relations chairman, was in charge of the exhibit.

TORONTO ARCHITECTS AID

CIVIC DESIGN PROGRAM Another step in Toronto's civic im-

provement program was completed with the recent installation of new traffic light standards and street signs designed by the Advisory Committee on Civic De-

sign of the Toronto Chapter, Ontario

The committee is a quasi-legal body, having been recognized in 1951 when the

city council passed a by-law establishing

it as the group to be consulted in matters pertaining to civic design. The com-

(Continued on page 32)

Association of Architects.

#### Van helped equip hospital co-operating with Yale

\* Van is proud to have had a part in equipping for food service the Grace-New Haven Community Hospital . . . 671 patient beds and 97 bassinets . . . unit of the important medical center at New Haven.

\* Besides the diet kitchens on the five patient floors of the Memorial Unit, one of which is illustrated above, Van equipped the main kitchen which provides food for the entire hospital and all cafeterias. One of the design features is the kitchen elevator . . . running up from the main kitchen . . . serving all diet kitchens . . . ideal transportation as it is exclusively for dietary use.

\* If you have food service equipment needs . . . new or modernization . . . it will pay you to use Van's century of experience.

Robert R. Moffat, chairman of the Advisory Committee on Civic Design, Toronto Chapter, O.A.A., holds new street sign designed by committee

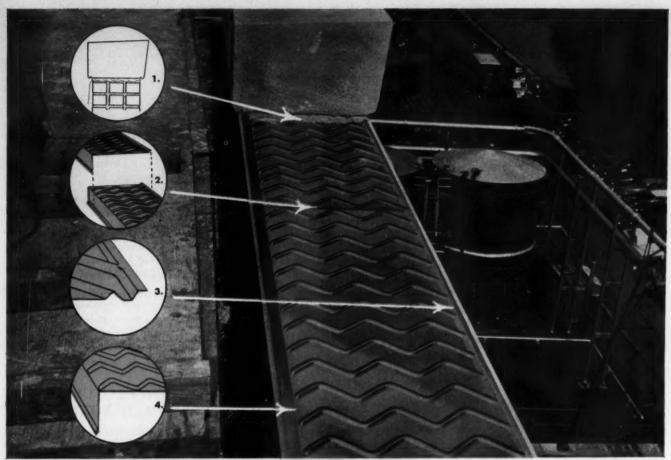


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ARCHITECTURAL RECORD OCTOBER 1954



ANACONDA THROUGH-WALL FLASHING is readily adapted to practically every brick or masonry construction. Note that the smooth selvage (4) forms a counter-flashing free of buckles or distortion at the bend.

## Anaconda Through-Wall Flashing protects new Colgate-Palmolive Building

The Colgate-Palmolive Company's new Industrial Service Building, Jersey City, N. J., is four stories high and contains nearly nine acres of floor space. It represents a big investment. Naturally, special precautions were taken to assure sound and lasting construction.

Adequate through-wall flashing of efficient design was essential. Otherwise, water would penetrate the brick and mortar joints... cause damage by deterioration and freezing... eventually reach interior surfaces.

The solution? Jacob Ringle & Sons, Sheet Metal Contractors, Jersey City, N. J., installed 1,552 feet of ANACONDA Through-Wall Flashing.

In the picture above you see four reasons why Mr. Ringle selected Anacond Through-Wall Flashing to do the job. They are:

#### 1. NO LATERAL MOVEMENT

The 1/32" high zigzag corrugations provide complete bond in the mortar in all lateral directions.

#### 2. WATER-TIGHT LAP JOINT

ANACONDA Through-Wall Flashing is easily locked endwise to provide a tight joint by simply nesting one or two corrugations. If desired, the joints can be easily soldered because of the flat surfaces between the corrugations.

#### 3. INTEGRAL DAM

The integral dam throughout its length is the full height of the corrugations. The accurately stamped dam and corrugations of the ANACONDA Flashing assures complete drainage in the desired direction when installed on a level mortar bed.

#### 4. SMOOTH SELVAGE FOR COUNTER-

Flat selvage permits neat, sharp bends for counter-flashing or locking to adjacent sheet metal without distorting the flashing or inhibiting free drainage.

The standard ANACONDA Through-Wall Flashing is made of 16-oz. copper, but lighter or heavier gage metal can be furnished to order. Stock sizes are for 8" and 12" walls. Special sizes to meet unusual requirements are available up to 47" wide over-all. One-piece corner flashings for 8" and 12" walls are also standard stock items.

The American Brass Company is always glad to discuss and offer suggestions on any problem involving sheet copper in building construction. Just send details to our Technical Department.



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good construction demands

ANACONDA

THROUGH-WALL FLASHING

#### THE RECORD REPORTS

#### CANADA

(Continued from page 30)

mittee is charged with the responsibilities of siting and designing all public buildings; planning and landscaping parks, boulevards and playgrounds; siting and designing statuary, drinking fountains, ornamental fences, etc.; and designing lighting standards, waste receptacles, traffic and other signs.



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Reelsville, Indiana School Built for \$9.55 per sq. ft.



Classroom, Reelsville School

Exterior view, Reelsville School, Reelsville, Indiana



Architects — Wayne M. Weber & John A. Curry, Terre Haute, Indiana Contractor — M. E. Rilenge Construction Co., Terre Haute, Indiana

With costs, appearance and safety as major considerations, the architect, thoroughly familiar with all types of roof framing, chose laminated wood beams and wood deck for this unusually attractive and practical structure.

SAVINGS—resulted as planned. The architect reports the 25,300 sq. ft. school cost \$241,714.00 or \$9.55 per sq. ft.—low for the area. Accurately fabricated beams, delivered when needed, helped to keep erection costs one third less than structures using other materials.

ENGINEERING—in accordance with the best industry practice, was made available to the architect. Structurally dependable beams were designed and complete shop drawings were furnished by Rilco. Beams were delivered, cut and drilled to exact specifications, ready for erection.

BEAUTY—which only warmth of selected wood can give, made this structure outstanding. The deck, painted white, contrasts with the darker color of the beams.

Rilco dependability is consistently proving itself to contractors and architects. Rilco glued laminated wood members are reducing costs, improving appearance and stimulating a latitude of design in a variety of structures. Rilco engineers will gladly work with you, furnishing complete information on your requirements—Just write:



RILCO LAMINATED PRODUCTS, INC. 2518 First National Bank Bldg., St. Paul, Minn.

New defense factory for Lucas Rotax Ltd., Scarborough Township, Ont., is composed of four blocks: the factory itself, cafeteria block, office block and small entrance lobby. Completely air conditioned, building has minimum of exterior glass, though for psychological reasons small square windows were provided in working areas; Howard Chapman, architect

#### BOOM TO LAST UNTIL '75, ECONOMIST FORECASTS

Dr. O. J. Firestone, economic advisor to the Federal Department of Trade and Commerce, has predicted a duplication of Canada's economic growth of the last 25 years, and forecast a house building and urban development boom starting in the late 1960's, when a large number of postwar babies will have reached marriageable age.

Speaking at a public affairs conference in Geneva Park, Ont., Dr. Firestone predicted: (1) by 1960, a \$6 billion increase in the gross national product, raising it to a total of \$30 billion annually; (2) by 1975, a total population of  $22\frac{1}{2}$  million; (3) by the same time, a 60 per cent increase in the working force to a total of  $8\frac{1}{2}$  million; and (4) also by 1975, a grand gross national production of \$50 billion.

#### ALBERTA CABINET MEETS ARCHITECTS' COMMITTEE

A delegation from the Alberta Association of Architects recently met members of the provincial cabinet to discuss a brief submitted by the A.A.A. protesting the government policy offering to design and build municipal hospitals at a fee of two per cent of the contract price. There had also been some question of the government's offering similar services for other types of construction

The department of Public Works assured the architects that the policy will

(Continued on page 36)



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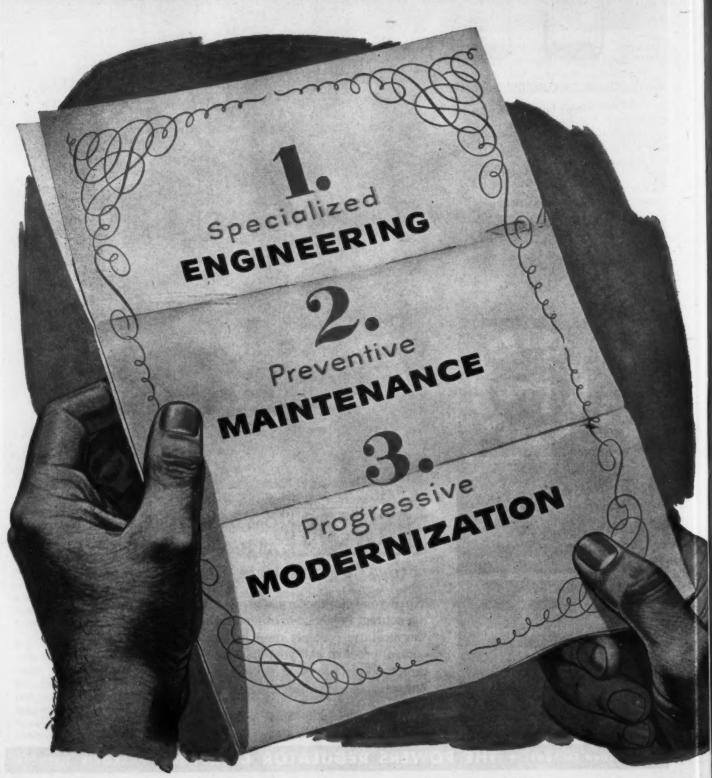
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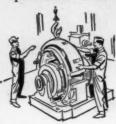
You can save money in the long run with Otis general duty freight elevators. They're standardized. They have lifting capacities of 2,500 up to 10,000 lbs. or more. And full safety features, power doors, selfservice or attendant operation.



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every part is built in Otis plants under rigid quality control. All with a basic knowledge of elevatoring that can't be matched.

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through 268 offices. All, because we never lose interest in the performance of an Otis installation.

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#### THE RECORD REPORTS

CANADA

(Continued from page 32)



New Municipal Offices were recently opened by the Township of Toronto; Gordon S. Adamson, architect

apply only to municipal hospitals, and not to schools or other municipal buildings.

Following the meeting, K. C. Stanley, president of the A.A.A., reported, "The minister said the policy had been adopted after requests had been received from hospital boards for aid and assistance." He added, "Since the policy has been adopted and hospital boards notified, no requests have been received for this new government service."

Other delegates included H. L. Bouey, secretary of the A.A.A.; George Wynn; George Lloyd and T. Gordon Abramson.

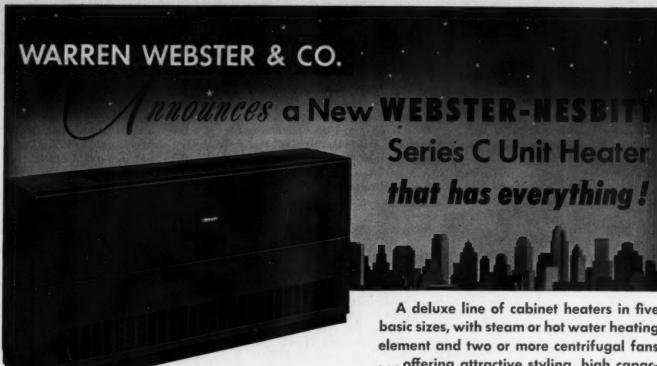
#### JULY HOUSING CONTRACTS SET NEW MONTHEY RECORD

Residential construction contract awards of \$96,600,000 during July established a monthly record, according to MacLean Building Reports. Heavy residential construction has been the major factor behind the substantial increases in value of all construction contracts awards for the last three months. All categories, however, showed gains, with industrial building contracts increasing 200 per cent.

Contracts Awarded: Comparative Figures
Compiled by MacLean Building Reports Im & AAHIL

	fur & see	illion,	
	July 1954	July 1953	Change
Residential	96.6	72.7	+ 23.9
Business	72.0	51.5	+ 20.5
Industrial	25.7	8.5	+ 17.1
Engineering	52.2	19.3	+ 32.8
Total	246.7	152.1	+ 94.5
	134		om made 20

on Wrightex and Wrightflor.



WEBSTER-NESBITT SERIES C UNIT HEATERS remove practically every obstacle to your freedom of design and application in heating offices, showrooms, corridors, etc.

The family of five matched casings ranges in length from 34" to 741/2". Heights are 223/4" (for the small unit, Type B) and 29" (for the four Type D units). For floor mounting, a 2" base is provided. Three types of front are offered: universal, for fully exposed application; semi-recessed, for two depths of partial recess; and fully-recessed. The recess fronts extend beyond and conceal the rough wall opening.

Hence, Series C units may be installed in a variety of ways: floor-mounted, horizontal, wall, or inverted, and non-recessed, partially-recessed (two depths), or fully-recessed. Additional latitude comes of the fact that, with the universal front, the intake and the discharge can be through the face, the bottom, or the top of unit. Rear intake is available in floor mounting.

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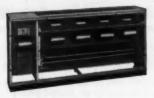
Ask for Publication WN-136.

A deluxe line of cabinet heaters in five basic sizes, with steam or hot water heating element and two or more centrifugal fans ... offering attractive styling, high capacity, and extreme flexibility of application.

Heating elements are serpentine type, with round seamless copper tubing expanded to plate type aluminum fins. Elements are of two capacities for use with steam; one capacity for use with hot water.

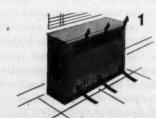
Fons are forward-curved, double-inlet type, designed with their housings for large air volume at low tip speeds. The small unit, Type B, has two fans; the four larger units, Type D, have two, three, four, five fans.

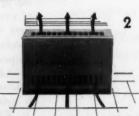
Motors are resilient-mounted and constant speed (standard). Type B motors are 1725 rpm with a variable-pitch motor sheave (two-speed motors, optional). Type B are direct drive; Type D are belt drive.





Above: left, Type D, draw-through; right, Type B, blow through. Below: (1) face intake, discharge; (2) face intake, top discharge; (3) bottom intake, top discharge; (4) rear intake, top discharge.









are Manufactured by John J. Nesbitt, Inc., Philadelphia 36, Pa. and Sold by Warren Webster & Co., Camden 5, N.J. with



offices in principal cities

### BOSTON ARCHITECT NAMED AS FHA STANDARDS HEAD

The Federal Housing Administration, under the reorganization now being effected, hopes to break through barriers that long have beset its architectural standards and underwriting operations and achieve the fundamental goals set out in the housing law — more and better housing at less cost.

Playing a key role in the effort to reach this objective will be the new head of the architectural standards division, Neil A. Connor, 47, of the Boston architectural firm of Bourne, Connor, Nichols & Whiting. FHA Commissioner Norman P. Mason has promised that a revision of the agency's minimum property requirements, now underway, will bring about "a more livable house that in the long run will cost less money."

Mr. Connor thus begins with a hopeful promissory note from his boss; and his own views are optimistic. He believes in quality appraising. He stands for accurate evaluation of work. If the quality of a house exceeds the minimum property requirements, he feels this fact should be taken into consideration.

#### Better Planning Ahead?

The additional value resulting will extend first to more and better arranged space, Mr. Connor is convinced. He says more storage space and better planning in general is in prospect for future buyers of FHA-insured homes. The relaxation on exterior bathroom specifications, announced earlier this year, was cited as a major penetration of the traditional FHA barriers in design. Mr. Connor thinks this was a major step toward making better planning possible and he says architects can be sure that more will follow.

What does FHA plan to do about the acceptance of new materials and techniques? Mr. Connor says he is already working on the long-time problem of delays, but specifics on dealing with new product applications have not yet been worked out. Mr. Connor is of the opinion that documented proof is needed before new materials and processes can be considered. Where the methods vary, laboratory tests are not always sufficient. An adequate volume of field experimentation is required.

Less Money, Less Action

Implementation of the new goals will be limited to some extent by limited funds. Commissioner Mason asked for \$1,350,000 in additional money which he hoped to use principally for tightening up central office control — a means of arresting the now-famed irregularities that have occurred in the agency's functions. But after shuffling the budget request on Capitol Hill, Congress voted only \$350,000. This means a considerable revision of FHA's earlier plans, and it strikes at the architectural standards division along with the rest. Mr. Connor will not be able to go as far as he had hoped in addition of personnel to forward the study of the planning problem. He will strive for better compliance, in a strong effort to see to it that the compliance men in the field do what

(Continued on page 332)

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Architects: Albert Kahn Associated Architects & Engineers, Inc.

**Builders: Turner Construction Co.** 

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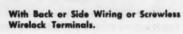
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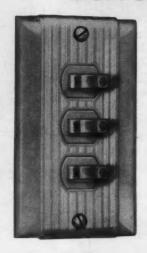
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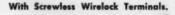






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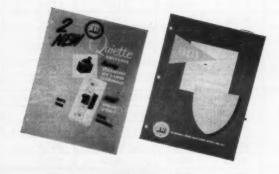
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#### THE RECORD REPORTS

#### CONSTRUCTION COST INDEXES

Labor and Materials

U. S. average 1926-1929=100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

#### NEW YORK

#### ATLANTA

Period	Resid Brick	lential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commer Fuctory Brick and	Bldgs. Brick and	Resid Brick	lential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick Brick and and Concr. Steel	
1930	127.0	126.7		Concr.	Steel		80.9	84.5	86.1	83.6
			124.1	128.0	123.6	82.1				
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1	85.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4	94.7
1940	126.3	125.1	132.2	135.1	131.4	91.0	89.0	96.9	98.5	97.5
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4	135.1
1947	219.3	222.0	207.6	207.5	203.8	180.4	184.0	158.1	157.1	158.0
1948	250.1	251.6	239.4	242.2	235.6	199.2	202.5	178.8	178.8	178.8
1949	243.7	240.8	242.8	246.4	240.0	189.3	189.9	180.6	180.8	177.5
1950	256.2	254.5	249.5	251.5	248.0	194.3	196.2	185.4	183.7	185.0
1951	273.2	271.3	263.7	265.2	262.2	212.8	214.6	204.2	202.8	205.0
1952	278.2	274.8	271.9	274.9	271.8	218.8	221.0	212.8	210.1	214.3
1953	281.3	277.2	281.0	286.0	282.0	223.3	224.6	221.3	221.8	223.0
May 1954	285.0	277.9	293.3	301.6	295.2	218.7	218.2	222.5	224.3	224.4
June 1954	285.2	278.1	293.6	301.8	295.4	217.2	216.5	221.4	223.4	223.4
July 1954	285.6	278.3	293.9	302.1	296.6	217.9	217.4	221.5	223.5	223.6
		,	increase over 19					increase over 19		
July 1954	131.3	127.4	124.9	126.5	128.0	152.5	161.6	132.9	129.5	136.1

#### ST. LOUIS

#### SAN FRANCISCO

July 1954	141.3	142.3	ncrease over 123.4	1939	125.5	144.8	% in	124.9	1939	129.9
July 1954	265.9	259.3	265.2	274.9	268.3	258.5	250.9	264.0	271.9	267.8
June 1954	265.2	258.3	264.3	273.6	265.9	257.2	249.5	263.3	270.8	265.8
May 1954	263.5	256.3	263.3	272.9	265.0	254.3	245.5	262.3	270.5	265.0
1953	263.4	256.4	259.0	267.6	259.2	255.2	257.2	256.6	261.6	259.7
1952	259.1	253.2	249.7	255.0	249.6	250.2	245.0	245.6	248.7	249.6
1951	252.0	248.3	238.5	240.9	239.0	245.2	240.4	239.6	243.1	243.1
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.6
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	18000	186.9
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1	115.5
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.: index for city A = 110index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.



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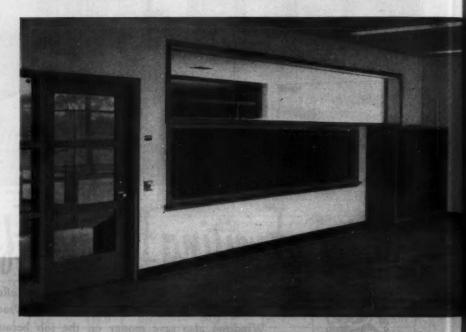
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Circular corridor juncture illustrates decorative accents possible only with plaster. Acoustical plaster in dome provides sound absorption in this high traffic area.

RALPH MILMAN, CHILDS & SMITH, Associated Architects

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Certificates issued on specific jobs are written commitments to work schedules, job cooperation, work of craftsmanship caliber and nationally recognized standards of quality. They are yours for the asking from lathing and plastering contractors adhering to the Code.

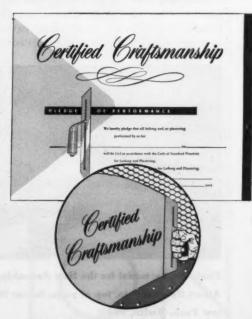
We suggest a thorough reading of the Code of Standard Practices which appears on the back of every pledge. Ask your lathing and plastering contractor for a copy. Or write National Bureau for Lathing and Plastering, 1401 K Street, N.W., Washington 5, D. C.

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#### ART UNDER A DICTATORSHIP

Art Under A Dictatorship. By Hellmut Lehmann-Haupt. Oxford University Press (New York, N. Y.) 1954. 6 by 9½ in., 227 pp, illus. \$5.50.

BY FELIX AUGENFELD, A.I.A.

Mr. Augenfeld was born in Vienna where he maintained his own architectural practice until 1938. He came to this country in 1939 and set up his practice in New York City.

TWENTY YEARS after the birth of the word "Gleicheschaltung" the English language, significantly and fortunately, still lacks an adequate translation of this sinister term. It is perhaps permissible to conclude that the concept of the total, ruthless, all-pervading interference of the state with the manifestations of all conceivable kinds of artistic creation has never fully become part of the thinking of the English-speaking world. Although it is by now well known that no dictator can ignore the arts and that art is an indispensable medium of political indoctrination in a totalitarian system, few people in the democratic countries are probably aware that what happened in Germany in the years between 1933 and 1945 is something that has never happened in the history of our society. It is true that art in pre-Hitler Germany had traditionally been subjected to government patronage and directive to a much higher degree than in the United States. But the Nazi

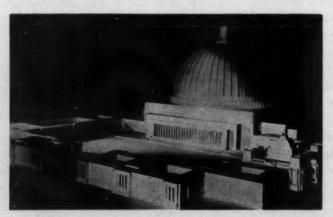


Photo above: model for the New Assembly Hall in Berlin by Albert Speer. Photo, top of page: Soviet Monument in Treptow Park, Berlin, 1949

system was the first one to make its art doctrines an inseparable part of its innermost structure. Art in the Nazi state—as well as later in the Soviet state—had to be corrupted to fit the political ideology of the regime.

The analysis of this process, the description of its mechanism and the existing challenge to the democracies — these are the subjects of Mr. Lehmann-Haupt's well written and well documented book. It is predominantly concerned with Nazi-Germany but it also includes a study of conditions in East-Germany and Soviet Russia. Through a happy combination of personal qualifications and fortunate circumstances Mr. Lehmann-Haupt seems ideally equipped for the job. In addition to being thoroughly familiar with German art life in pre-Hitler days, he has been given unusual opportunities for research and firsthand information since the war. Part of his material is based on personal reports by surviving ex-inmates of the spiritual concentration camp in which the progressive, non-conformist artist was languishing during the Nazi regime.

After discussing the history of previous attempts to coordinate art policies with political developments, the author examines the situation under the Weimar republic, in which several experiments to integrate art with democratic reforms were undertaken. This was a period of bold pioneering and of great freedom of expression in all the arts. Its remarkable achievements in painting, sculpture and architecture were to furnish Hitler with the slogan of "degenerate" art, to be destroyed together with the parliamentary system, with which it was identified, and to be replaced by the new Nazi art idols.

What gave the Nazi art policies such peculiar, irrational violence was the fact that they were linked with savage racial persecution and based on an obsession with the myth of the "Nordic Aryan" genius and the superiority of its cultural heritage. Another unique feature of the Nazi art dictatorship is the well known circumstance that Hitler, as a consequence of his own personal experiences as an adolescent, was afflicted with a morbid preoccupation with art during all his life. The man who in his youth had been refused admittance to the Vienna Art Academy for lack of talent had to prove to himself and to the world that he was a great artist and in particular a talented architect. Thus he became the driving force behind the gigantic Nazi building program and it was

(Continued on page 48)

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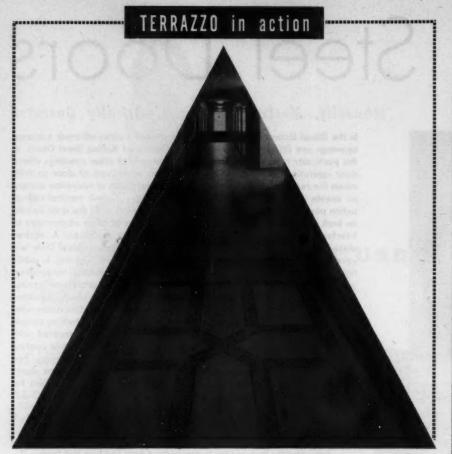
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#### REQUIREDIREADING

(Continued from page 46)

his personal taste that had to be expressed. The architectural idiom used by the master builders he selected (first Troost and later Speer) was that of a cold, inhuman, imitative classicism, with special emphasis on façades, conceived as vast perspectives to be seen from rapidly passing motorcades. Modern architecture was for the Nazis the "betrayal" of German culture by international Jewry. The flat roof in particular was attacked as "oriental," was eradicated from practically all buildings and replaced with the high German gable.

Was there any good architecture? The author, with understandable reluctance, admits that some of the official structures were effective expressions of the Nazi ideology. And that certain industrial and military buildings, since they were quite unaffected by party influence, were "first rate architecture." Their artistic merit is directly proportional to the degree in which the building served a practical purpose and in which it therefore escaped ideological contamination. It is an interesting observation that "architecture as a whole seems to be somewhat less vulnerable to totalitarian corruption than are painting and sculpture. Painting, it would seem, lends itself to complete, sculpture to almost complete corruption." The arts and crafts resisted corruption to a remarkable degree. It appears that this medium, due to its very nature, did not respond favorably to ideological treatment. And this in spite of the fact that it was given a lot of official attention and was subjected to the same strict regimentation as the other arts.

The mechanism of the regimentation is described in the chapter on "Total Control." It is a guided tour through the gas chambers in which non-conformist art was slowly suffocated. It makes gruesome reading. The precision and thoroughness with which political doctrine was translated into practice were only occasionally confused by personal rivalry between party bosses. Otherwise the control by the "Kunstkammer" was airtight. "The so-called racially inferior and the politically unreliable were excluded. Some of them were sent the dreaded 'Arbeitsverbot,' explicit orders to stop working altogether in their art, even in the privacy of their homes."

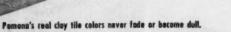
The chapter on the "Challenge to Democracy" is an attempt to clear up

(Continued on page 370)

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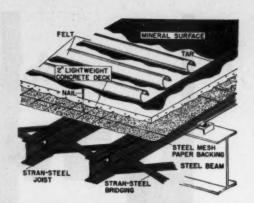


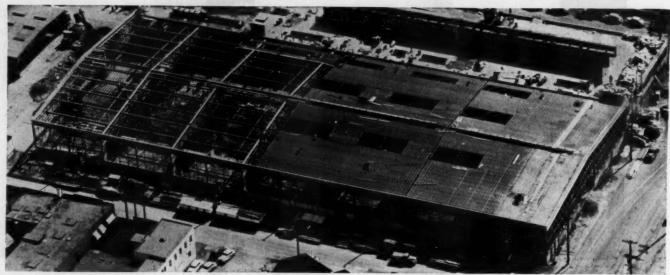
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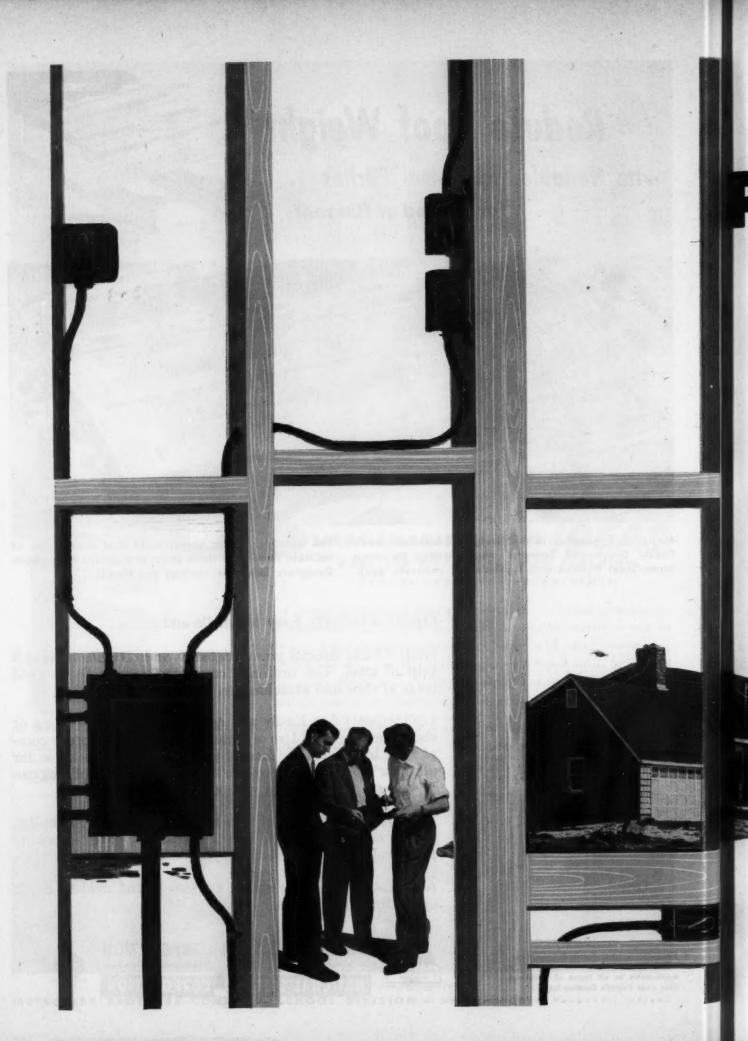
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One of a series of papers prepared by leading authorities on air conditioning. The opinions and methods presented are those of the author and are not necessarily endorsed by the Du Pont Company. Reprints of this article, and others in the series, may be had free upon request.

### Air Conditioning for Motels

by L. J. GUARINO



L. J. GUARINO is director of mechanical engineering with Pan Engineering Company of New York City. He has designed heating, ventilating and air conditioning equipment for commercial buildings and industrial plants. The medical profession knows him as coinventor of a new chemical dialyzer, used as an artificial hidrory.

There was a time when a tourist court advertised hot and cold showers to attract business. Today, however, the magic phrase is "Air Conditioned." Weary motorists expect comfort and relaxation from an air conditioned motel. As a result, motel operators are turning to air conditioning rapidly. A national survey showed recently that 10% of America's motels are already air conditioned, and the completion of planned installations will add greatly to that number before the year's end.

#### WIDE CHOICE OF METHODS

Whether an owner wants to install air conditioning in an existing motel, or is planning a new one, he has several types of equipment to choose from. His selection will depend on several factors besides cost. He should consider the arrangement of his court and its rooms, the intensity of summer heat and humidity in the area, whether he wants a year-round air conditioning-heating system combined, and whether there are special facilities to be air conditioned, such as lobbies, a restaurant or lounges.

with an existing motel—the least expensive way is to provide each room with a window unit. But this is not always the most efficient way. Where the situation does call for this approach, there's plenty of variety to choose from to suit the needs of each room. The four basic standard sizes are the ½, ½, ¾ and 1-ton units. Some of these units have a reverse-cycle feature or an electric heating element that keeps rooms comfortable on chilly spring and fall nights.

**FLOOR-MOUNTED UNITS**—Another type of self-contained unit is floor-mounted, and used to cool larger public areas, such as lobbies, restaurants, and lounges.



Spacious public areas—like this lobby and lounge at the Red Horse Motor Inn, Dayton, Ohio—are often best served by more than one room unit. There's one under the window at the far end of the room. It's unobtrusive, and occupies negligible floor space. There's another in the ceiling foreground.



Where's the air conditioner? That neat, out-of-the-way unit in the corner circulates chilled water during the summer, hot water in winter. All room units are served from central plant shown in photograph at right.

Ductwork may lead from the unit to give more even air distribution. This type of unit, being larger than a window unit, needs plumbing connections for water.

CENTRAL PLANT SYSTEM—From the standpoint of the motel's appearance, room comfort and general over-all efficiency, a central plant system is usually most desirable. There are two chief types of central plant systems.

One is the chilled air system, which passes air brought in from outdoors over cooling and dehumidifying coils and distributes it by means of ducts. The same ductwork can carry warm, moistened air in winter. Blower size and duct dimension are factors to calculate for length of ducts. Also, adjoining new buildings may be served by installing underground ducts.

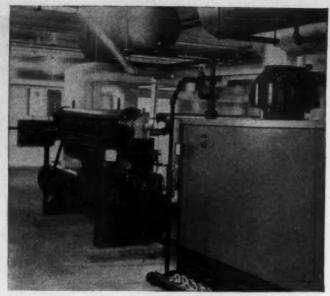
In the other type of central plant system, water is chilled and pumped through pipes to the area to be cooled. Individual rooms have room units through which the chilled water flows. Here, room air is mixed with outside air drawn in through filters, and the mixture is blown around the chilled coils of the unit. The same pipes can be used to circulate hot water during winter.

Whichever system the motel owner accides upon, he must remember the needs of his business, which depends completely on satisfied customers. He'll find that his customers will insist on two things at least: quiet operation and individual room temperature control.

#### CAREFUL PLANNING SAVES MONEY

Installing an air conditioning system involves an important capital expenditure. So the motel operator will be wise to plan carefully, considering these vital factors: initial cost, operating cost, sound architectural and engineering advice, and a realistic estimate of the amortization rate. For guidance on this point, note that many owners feel that repeat business alone will pay for their air conditioning installation within two to five years.

Perhaps an owner, planning a new motel, does not want to install air conditioning immediately. In any event, he would be wise to make provision for the future installation of a system. The cost of an installation will depend on the layout of his motel, for one thing. Because of the long low construction of so many motels, good wall and roof insulation helps keep down operation expense. And landscaping and orientation of the building with respect to prevailing winds and the sun are important factors. Thus, it's far more economical to provide in the beginning for the possibility of air conditioning than it is to make extensive alterations later on.



This central plant chilled-water system is in the Red Horse Motor Inn's main building. Water-chilling equipment is to left, behind boiler on right for winter's hot water. System uses an Apex chiller and Brunner compressor.

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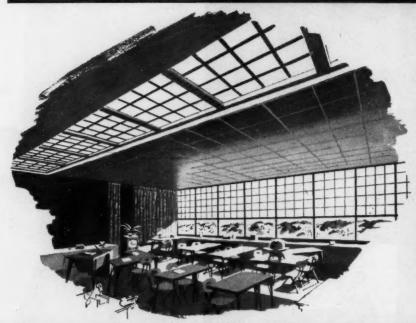
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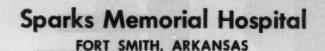
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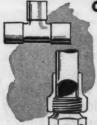
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No worry about wrench room when you use Revere Copper Water Tube with solder fittings. Compression fittings can also be used. No threading is necessary with either type fitting. Wall thickness of tube used can thus be less than for threaded pipe.



#### **NON-RUSTING**

Rustable pipe eventually clags as shown in drawing at top right. Non-rustable Revere Copper Water Tube suffers no loss of flow or pressure as shown at bottom right. No allowance in pipe size need be made for rust ac-cumulation with Revere Copper Water Tube.







MINIMUM REMODELING needed to air condition this 400-room hotel. False ceiling (picture, right) hides small air ducts and high pressure units used in...

## Kno-draft High Pressure System

Famous Lincoln Hotel, in Indianapolis, wanted to air condition its rooms. Separate refrigeration units for each floor had to be ruled out. So did individual window units. And space limitations prevented use of the regular sized ducts used for ordinary lowpressure air distribution.

A High Pressure System, designed by Bevington, Taggart and Fowler, consulting engineers, solved the problem. In this system, air is circulated through small ducts at better than 3,000 feet per minute and at 16 times normal pressure. In the take-offs to

each room, however, specially designed Kno-Draft high pres-CONNOR sure units assure quiet air delivery.

Another Kno-Draft advantage: the amount of air to each room can be varied from within the room by a simple wall control.

Does the foregoing spark an idea for one of your present jobs? Connor engineers will gladly help you in any way they can. As a first step, clip and mail the coupon below to Connor Engineering Corporation, Danbury, Connecticut.





kno-draft.

adjustable air diffusers

CONNOR ENGINEERING CORPORATION Dept. E-104, Danbury, Connecticut

Please send full information on High Pressure Systems and Kno-Draft High Pressure Diffusers.

Name	6
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Address	
ity	Zone

### low-cost housing needs the

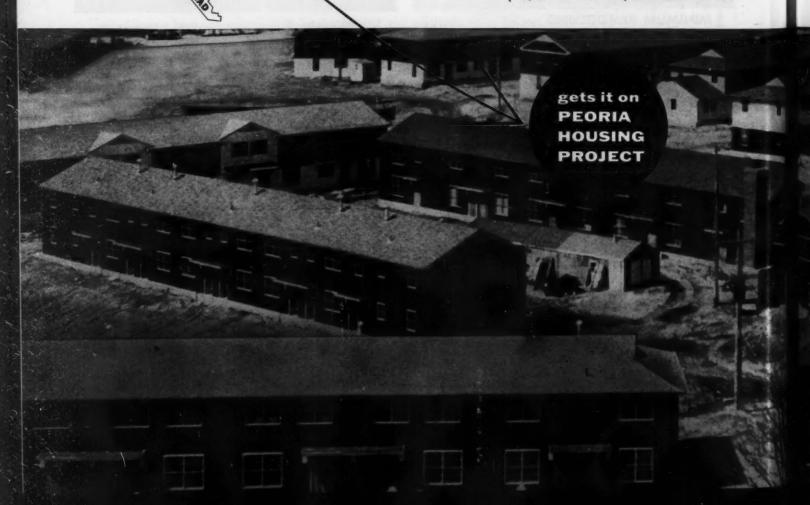
# and FIRE SAFETY of lath and plaster

This housing project in Peoria, Illinois, is a fine example of building wisely, though economically. Extra strength and fire safety are not considered "luxuries" here, not when you are going to house 360 families. To get the extra strength and safety they wanted, Architects J. Fletcher Lankton, John N. Ziegele and Associates specified plaster for all the walls and ceilings, and approved the use of Keycorner and Keybead wire reinforcing lath at corners and junctures. These plaster walls are much stronger than "dry wall" and give extra strength, longer life and better service to this housing development. And, of course, fire safety is greatly increased when you build with plaster, especially reinforced plaster. Every day, more architects and builders realize that the use of reinforced lath and plaster is the best way to build housing that has the durability, protection, beauty and long-range economy that assures satisfaction to both dweller and owners. Ask your plastering contractor to figure your jobs with the "3 Keys to Stronger Plaster"—Keymesh, Keycorner and Keybead.

#### KEYSTONE STEEL & WIRE COMPANY

Peoria 7, Illinois

Makers of { Keymesh • Keybead • Keycorner • Keystone Nails Keystone Tie Wire • Keystone Welded Wire Fabric



3 KEYS TO STRONGER PLASTER

#### Peoria project architects say:

"When we want the best plastering job, we specify reinforced plaster, and we know Keymesh, Keycorner and Keybead do exactly the job we want. Even when price is a major consideration, we like to use lath and plaster because it is superior to "dry wall" construction and assures the durability, protection and longrange economy that makes the best investment."

J. Fletcher Lankton John N. Ziegele and Associates Architects—Engineers Peoria, Illinois

## C. S. Miller, President of Mid-States Plastering Contractors, says:

"If you want a good, strong plastering job, I recommend the 3 Keys to Stronger Plaster—Keymesh, Keycorner and Keybead. These three wire reinforcement products give very good protection against cracking. They're easy to work with, too. Keymesh and Keycorner unroll flat, don't cut the hands, and are put up easily, quickly. Keybead is easily applied for a straight, solid corner. You can't beat the 3 Keys to Stronger Plaster."



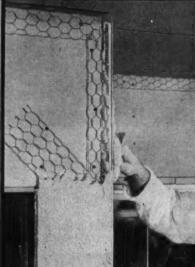
Easy to use—Keycorner unrolls flat, cuts easily, handles easily, speeds the job. Cuts down waste, too.



Preformed—Keycorner is preformed for corners, joints, ceiling junctures. Flex it and it fits right in.



Solid Corners—Keybead's precision-formed bead on open mesh fits all autside corners, quickly, easily. Full, solid corners result.



Easy Trowelling—Plaster flows evenly through open wire mesh; easy trowelling, Multidirectional reinforcing is backbone of strength.





KEYCORNER

KEYBEAD







When you use the 3 Keys to Stronger Plaster, your finished job beats "dry wall" for strength, fire safety and beauty. The 3 Keys stop plaster cracks before they start. The superior strength and protection of your construction will last far longer. Be sure your constructions get the extra strength and fire safety of lath and plaster. And get the best plastering job! Insist on Keymesh, Keybead and Keycorner.





Rusco-equipped home in Beverly Hills project, Long Island, N.Y. Architects and Builders: Siegel and Rapp. Photo by Herman Kroll.

#### Here's why leading architects and builders say:

## RUSCOPRIME

offer outstanding improvements in window design!



RUSCO HORIZONTAL-SLIDE PRIME WINDOW



RUSCO FULVUE PRIME WINDOW



RUSCO VERTICAL-SLIDE PRIME WINDOW

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- GIVES DRAFT-FREE VENTILATION. Rusco's patented MagicPanel® allows any desired amount of draft-free ventilation while offering positive protection from rain, sleet or snow!
- PROVIDES MAINTENANCE-FREE SCREENING. Rusco's Fiberglas screen will not rust, rot, corrode or stain and never needs painting. Even screens out airborne particles of dust and dirt!
- MADE OF ARMCO ZINCGRIP. The special purpose steel that prevents corrosion—bonderized and finished in beautiful baked-on enamel just like a fine automobile.
- ADDS TO PROPERTY SALABILITY. Nationally advertised—with universal consumer-acceptance—the Rusco Prime Window is a needed, wanted and highly merchandisable unit. The hottest news in the field of building today.

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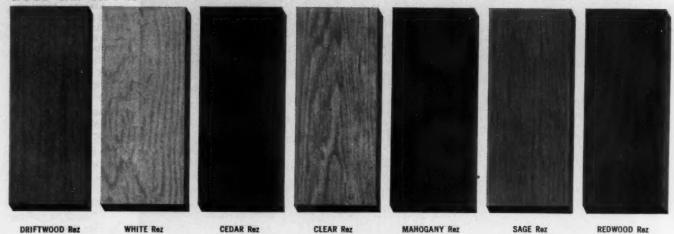


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Fast answer: They're all Fir!

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SATINWOOD Rez—finishes surfaces to a pleasing, satiny sheen formerly achieved only with hand rubbing.



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Adams Building, Bartlesville, Oklahoma. Architects: Neville, Sharp and Simon. Hardware Supplier: Murray R. Womble Company.

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#### J&L Junior Beams prove

## economical, adaptable



#### at Orgill Brothers \$2,000,000 warehouse

Five hundred and fifty tons of J&L Junior Beam roof purlins have been specified for Orgill Brothers new \$2,000,000 wholesale hardware warehouse in Memphis, Tenn. Both architect and contractor agree that Junior Beams enabled them to save money on this 14-acre project and complete the job on schedule.

them to save money on this 14-acre project and complete the job on schedule.

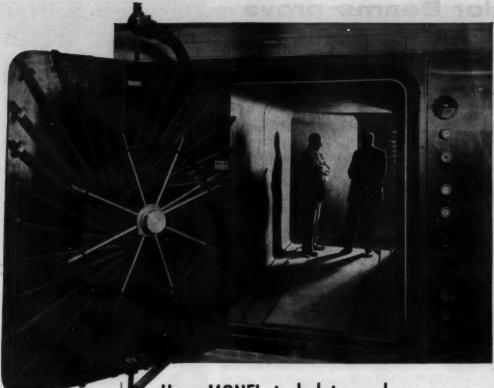
Architects W. C. Jones and W. C. Jones, Jr., chose Junior Beams because their physical characteristics permitted greater economy in design, allowed more head room, better clearance and thus provided a better stabilized building. In addition Junior Beam's light weight made for fast, easy handling during construction, as well as during hauling to the building site.

Clinton J. Wagner, Vice President of S&W Construction Company, contractors on the job, reported that "we found Junior Beams to be adaptable and economical for this type of construction. Deliveries were satisfactory and well ahead of schedule. This was a great factor in enabling us to complete the project on time."

Additional savings were outlined by B. S. Merrill, structural engineer for the architects. He said, "we had 6500 sprinklers to install and the use of Junior Beams effected considerable savings . . . I would estimate we would have had to put in 10 to 20 percent more heads if we had used some other joist and at \$20.00 a head you can see what we saved."

Take a tip from the men who built Orgill Brothers Warehouse, Junior Beams are adaptable, rigid, shrinkproof, fire resistant, vermin-proof, and impervious to termites. Write for more information today. Our new booklet, J&L Junior Beams, shows how these modern structurals are being used as floor joists and roof purlins with leading and spacing tables for various spans.





#### 13½ ton animal cage sterilizer.

This American Sterilizer unit is 10 feet, 10 inches long with a 62 by 80-inch Lukens Monel-clad inner chamber and two Monel-clad doors. It is a pressure unit, equipped for either steam or carboxide gas (for sterilizing heat sensitive plastics, instruments and clothing).

How MONEL is helping solve

### the sterilizing problem at the

#### 500-bed National Institutes of Health Clinical Center

What The National Institutes of Health Clinical Center has done about its sterilizing problem is significant.

For this 500-bed, 14-story Public Health Service Hospital is also a gigantic medical research laboratory. It has all the sterilizing problems of an ordinary hospital . . . plus a host of others, such as the special requirements of animal experimentation.

At the Clinical Center pressure sterilization is done in Monel® and Nickel-clad units fabricated by American Sterilizer Company. Two 13½ ton, 15% Monel-clad sterilizers, like the one shown, handle animal cages and cage racks. Central Sterile Supply uses large rectangular Nickel-clad units; the Operating Suite, Monel pressure instrument washer-sterilizers.

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And if you would like more information on solid Monel, Monel-clad, Nickel-clad allwelded sterilizers, write American Sterilizer Co., Dept. M, Erie, Pa., for their latest catalog.

The INTERNATIONAL NICKEL COMPANY, Inc.
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for low-maintenance sterilizers



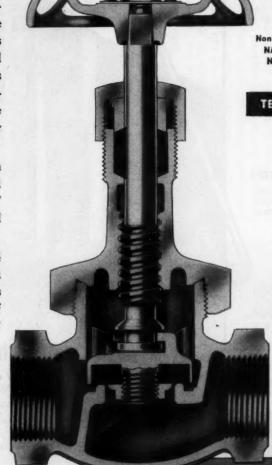
This "Hospital Valve" for OXYGEN now serves many industrial needs . . . JENKINS Fig. 504 Bronze Globe with TEFLON disc and packing

Jenkins Fig. 504 was designed for the critical requirements of controlling oxygen, nitrous oxide, or any non-flammable gases in hespital services. Industry was quick to note its unique advantages, and it is now frequently specified for systems carrying giseous fluids for heating, cooling, lighting, and processing, where pressure does not exceed 400 psi, or

Fitted and tested to comply fully with all Association specifications for hospital services, Fig. 504 has the "extra value" construction throughout that is assured by Jenkins quality standards.

temperature a maximum of 150° F.

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Complies fully with "Standards for Non-Flammable Medical Gas Systems" of-NATIONAL FIRE PROTECTION ASSOCIATION NATIONAL BOARD OF FIRE UNDERWRITERS AMERICAN HOSPITAL ASSOCIATION

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DuPont "Teflon" is a tough, "waxy" inert solid, gray-white in color, tasteless and odorless, non-adhesive and frictionless. Teflon's high resilience assures perfect contact of disc with lapped, crowned seat for gastight closure. Packing is onepiece ring of Teflon, provides de-pendable leak-proof seal with light compression.

Reinforced Body Casting High strength bronze body is ribbed along bottom centerline providing extremely high factor of safety. Guards against distortion from vibration, shock, or pipe strains.

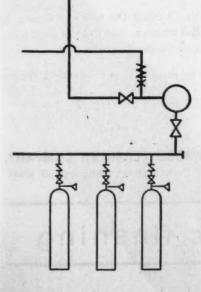
#### Degreased

All bronze parts are thoroughly degreased before assembly.

### **Polished Spindle**

Alloy bronze spindle is polished to permit easy turning and assure leak-proof seal.

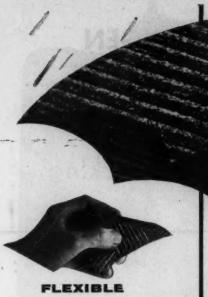
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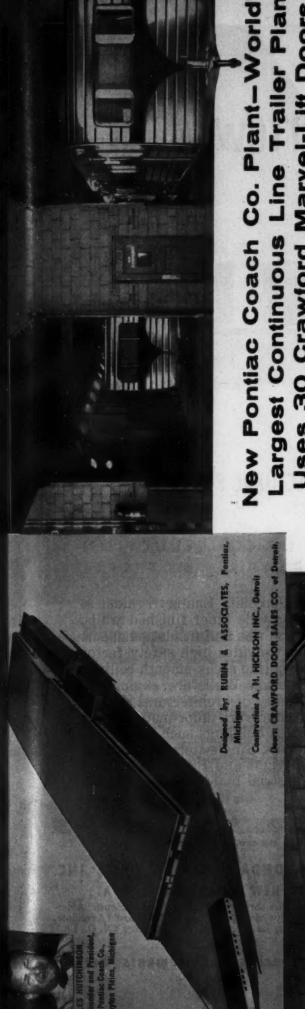
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# New Pontiac Coach Co. Plant-World's **Line Trailer Plant** Uses 30 Crawford Marvel-Lift Doors

This is the plant which produces the famous Pontiac Chief Mobile Home, a comfortable, practical and thrifty home for thousands of families throughout the

unloaded at floor level at the proper bays for sub-assembly fabrication. Sub-assemblies move laterally to join the continuous production lines. All 18 exterior doors are Crawford Marvel-Lift Doors of wood, specified at the request of Mr. Les good performance in his previous plant. The main building is 1120 feet long and 202 feet wide. A railway spur along the north side permits materials being Hutchinson, President of Pontiac Coach Company, because of Crawford Doors

The paint shop, practically in the middle of the plant, between the assembly lines and the fitting and furnishing lines, pre-

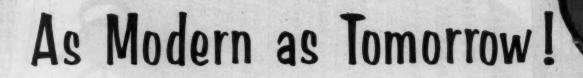
retardent doors are not) and were approved by both the local fire department exclusive double hoist for either side of door. Your inquiries on any door Road, Detroit 5, Michigan. Plants in F. Fentiman & Sons Ltd., Ottawa, Ont. sented a safety problem which was solved by the installation of 12 Crawford All-Steel Doors which segregate this area. These doors are 12'0" x 12'0", large These doors are 12'0" x 12'0", large enough to permit passage of the unusually large product (which ordinary firesturdy doors are counter-balanced by the problem will get prompt and intelligent Door Company, 157-20263 Hoover 10 cities; Warehouses in 94 cities; Sales and Service everywhere. In Canada, insurance company. These large, Marvel-Lift Mechanism and are easily operated by hand by means of Crawford's attention; please write us. Crawford

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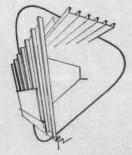




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### A NEW CONCEPT OF CONSTRUCTION USING THIS VERSATILE MATERIAL

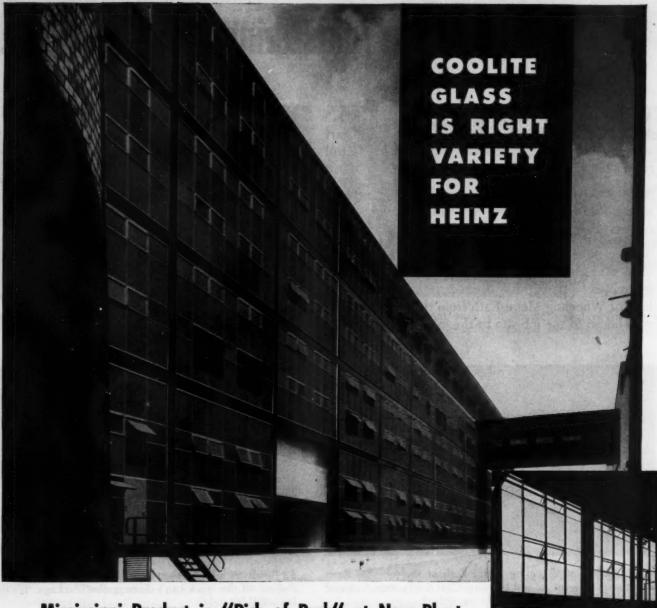
AVONCRAFT Porcelain Enamel Frameless
Load-Bearing Walls provide inner finished walls,
structural ribs and insulation space.
Load-Span Decking provides high safety factor
over long unsupported areas, smooth ceilings
and insulated roof. Curtain Walls are engineered
for flexibility of architectural design.
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### Mississippi Product is "Pick of Pack" at New Plant

The striking exterior of the new, Heinz vinegar plant, Pittsburgh, Pa., executed in a shimmering sweep of Coolite, Heat Absorbing and Glare Reducing glass, has already been acclaimed "a brilliantly incisive piece of architecture." The beauty and drama of this modern concept is immediately apparent... fit perfectly the Heinz tradition of highest quality materials and workmanship. The advantages of Coolite to the plant interior are as important as exterior beauty... employes work comfortably in areas completely daylighted with Coolite-conditioned light... light without harmful glare or excessive solar heat.

For Coolite filters out unwanted factors in "raw sunlight"... helps keep plant interiors cooler, brighter, more comfortable... reduces necessity for makeshift screens or painting. Employees see better, feel better, work better in interiors daylighted by Coolite, Heat Absorbing and Glare Reducing glass.

Coolite can make the plants of your clients better places to work in . . . boost efficiency . . . reduce rejects. In your plans for new construction or modernization, specify Coolite. Available from distributors of quality glass everywhere.



Skidmore, Owings & Merrill, Architects and Engineers, Gordon Bunshaft, Partner In Charge. Jaros, Baum & Bolles, Mechanical Engineers. George A. Fuller, General Contractor and ID98 B. Knutsen, Project Manager for H. J. Heinz Co.



Write today for new catalog, "Coolite, Heat Absorbing Glare Reducing Glass." Samples on request.



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1. Unloading. Tremendous saving right here. One man with a fork truck unloads a car in 45 minutes...job formerly took 16 man-hours!



4. Truckload of Wheeling Metal Lath at the job-site. Each Package is uniform . . . just the way it left the factory . . . trued up parallel sides and angle ends uncrushed.



5. Ready to unload. Insert levers behind center and . . . heave. Falling off the truck can't damage that Package. It's rugged! It's solid! It's tight!



8. Lathers get busy...work swiftly...every sheet is true, flat, rigid. Minimum selvage edge prevents overlap bulges and avoids waste.



9. Ready for the plasterers. Wheeling Metal Lath guarantees a good plastering job. That's because it "gives" and "breathes" . . . allows for contraction and settling.

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2. Storing — another big saving. Wheeling's "Engineered" Metal Lath Packages stack ceiling high without shaking or wavering... because the Packages are flat!

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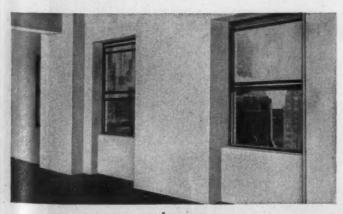
3. Color-keyed near ends and number-stenciled for weight identification are time-saving features. Each bundle is tagged for easier counting.



6. Workman has to deliberately cut open the Package. This, plus weight of the Package makes pilferage virtually impossible... another saving.



7. All set. Lather inserts baling hook into bundle and hoists with block and tackle to desired floor. Every sheet is uniformly rectangular. Every corner a perfect 90°.



10. Another job well done with Wheeling Metal Lath... and savings, too, all along the line because of handling ease, packaging care, product superiority.



The complete line of Wheeling building materials includes Metal Lath and Metal Lath Accessories, Expanded Metal, ExM Angle Frame Partitions, Steelcrete Reinforcing Mesh, Steelcrete Vault Reinforcing, Tri-Rib Steel Roof Deck, Cop-R-Loy Galvanized Sheets, and SofTite Galvanized Sheets.

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MATERIAL DIVISION . WHEELING, WEST VIRGINIA

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> new Wonder Wood from APMI

First it was Sea Swirl, decorative Douglas fir plywood...then Knotty Sea Swirl...now, a worthy companion to these popular APMI panels is BIRCH faced plywood. This new product is top quality—golden beauty outside; SOLID CORE inside. Standard 4' x 8' panels are available in 1/4" and 3/4" thickness. Other sizes on special order. APMI plywood is stocked at company warehouses and selected independent jobbers. Your inquiries are invited.





### Associated Plywood Mills, Inc.

General Offices: Eugene, Oregon

Plywood plants at Eugene and Willamina \* Lumber mill at Roseburg

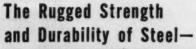
BRANCH SALES WAREHOUSES: 4268 Utah St., St. Louis, Missouri; 4814 Bengal St., Dallas, Texas; 4003 Coyle St., Houston, Texas; 1026 Jay St., Charlotte, North Carolina; Wake Forest Road, Raleigh, North Carolina; Worley Road, Greenville, South Carolina; 925 Toland St., San Francisco, California; Eugene, Oregon; Willamina, Oregon.

SALES OFFICES: 31 State St., Boston, Massachusetts; 595 E. Colorado St., Pasadena, California.

# Announcing Hager's New FIRST!

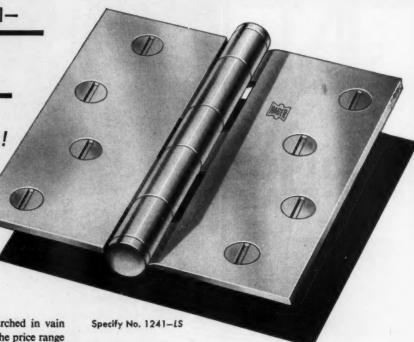
# THE Luma-Sheen HINGE

TRUE ALUMINUM-COLORED STEEL THAT MATCHES
ALUMINUM DOOR HARDWARE AND TRIM!



The Soft Lustrous Beauty of Aluminum—

... At Less Than 1/3
The Cost of Aluminum!



ARCHITECTS and builders have searched in vain for an aluminum hinge within the price range of steel. Hinge manufacturers have tried time and again to supply, at reasonable cost, a steel hinge that has the looks of aluminum.

Again, Hager sets the pace for the industry—now, a steel Hager hinge with new, permanized LUMA-SHEEN finish...the true aluminum color that matches other aluminum door hardware and trim!

Hager is the first to blend aluminum and steel successfully into a functional unit. The new Hager LUMA-SHEEN hinge costs less than solid aluminum (actually, less than ½ the cost). Looks like any quality aluminum hinge, yet the hinge itself is steel!

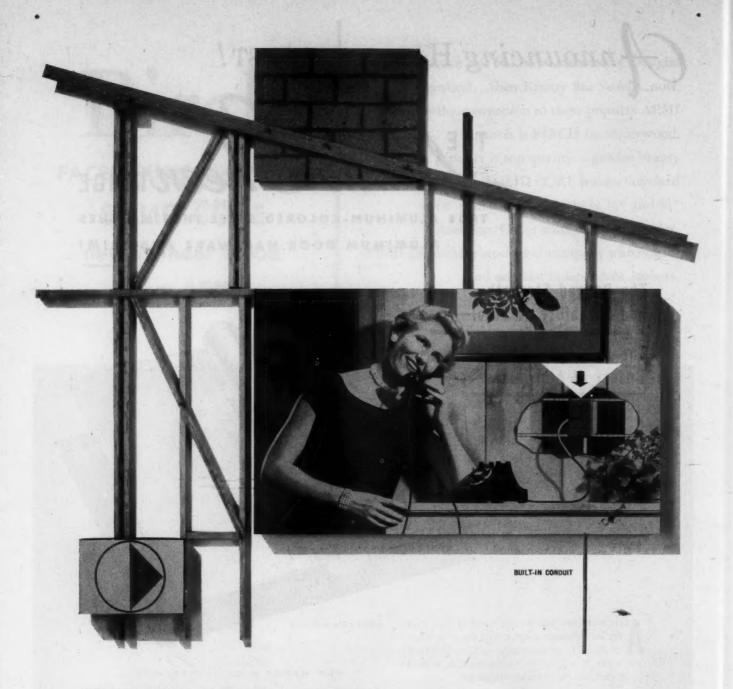
Specify Hager No. 1241-LS on jobs that call for matching aluminum hardware...you'll agree Hager achieves the perfect union of beauty and strength in the new permanized LUMA-SHEEN hinge!

NEW HAGER STEEL HINGE WITH .

PERMANIZED LUMA-Sheen FINISH



6 1074 C. HAGER & SONS HINGE MANUFACTURING COMPANY . ST. LOUIS 4, MO.



Conveniently located telephone outlets in the kitchen, bedroom, hall or den and concealed telephone wiring...
these are important details of interest to your clients.

And there's an easy, inexpensive way for you to provide for them.

Specify telephone conduit.

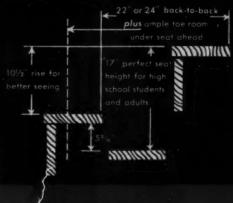
Your Bell Telephone Company will be glad to help you plan economical conduit installations. Just call your nearest Business Office.

BELL TELEPHONE SYSTEM



# BEST BUY!

TWO DEPTHS ... 22 row depth for maximum seating capacity—24" row depth for greatest seating comfort.



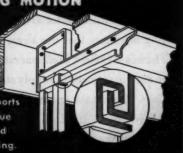
NEW DESIGN has achieved weight reduction up to 70 pounds per row—the easiest gym seat to open and close.

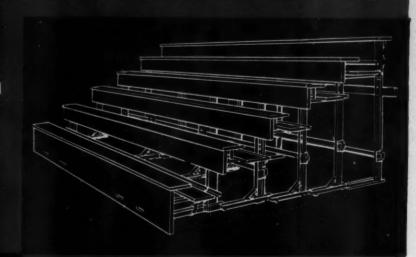
**SELF-SUPPORTING** understructure now stronger than ever—wood parts give additional strength.

4 VERTICAL UPRIGHTS support each row—controlled weight distribution—no extra wall reinforcing required.

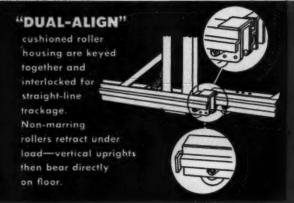
### "FLOATING MOTION"

and closing assured by interlocking members and multiple supports that insure true alignment and prevent binding.





# TELESCOPIC GYM SEATS\*



Write For Catalog!



DUCTS, INC. . 3540 DEKALR ST. . ST. LÖUIS 18, NO.

# Steam cools Mennen's new face

What kind of air conditioning system do you use in a combination office-factory building? The answer at this new Mennen Company headquarters building in Morristown, New Jersey, is two different systems—both of them by Carrier. Beyond this main entrance are the general offices and research laboratories. All are air conditioned by the Carrier Conduit Weathermaster\* System. A Carrier development, perfected through years of experience, the Conduit Weathermaster System is designed to answer the special problems of air conditioning office buildings, hospitals, hotels. Small-diameter air conduits save valuable



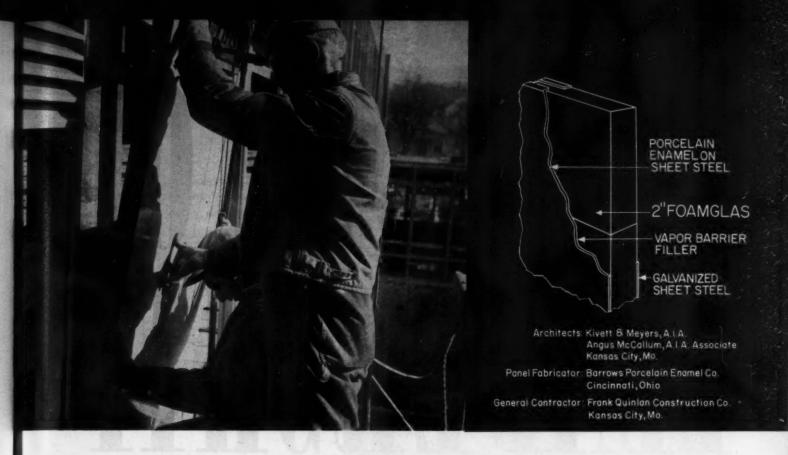


air conditioning refrigeration industrial heating space. And in each room or office, occupants can adjust the temperature merely by turning a dial. Another Carrier system serves the manufacturing area. Both systems get their chilled water from Carrier Absorption Refrigerating Machines that use steam to produce refrigeration. The same boilers that generate steam for winter heating are used in summer to supply steam for the absorption machines. Important operating economies result. May we give you more of this kind of information to help you with your current projects? Call your nearest Carrier office. Or write to Carrier Corporation, Syracuse, New York.

Architects and Engineers: A. M. Kinney, Incorporated

General Contractor: George A. Fuller Company

Mechanical Contractor: Richardson Engineering Company



### Light-weight, waterproof FOAMGLAS proved ideal insulation for curtain wall panels at Douglass Elementary School, Kansas City, Missouri

Light-weight and waterproof, FOAMGLAS proved to be the ideal insulation for prefabricated curtain wall panels used on the new Douglass Elementary School, Kansas City, Missouri. This unique cellular glass insulation used as the core of porcelain faced panels for the new School, has been a major factor in making them a success.

The Douglass School panels were designed to secure ideal performance in non-load bearing curtain wall construction. They had to be light, rigid and weather-proof, with consistently good insulating qualities. They had to be free from possible deterioration and the formation of moisture traps.

They must also be fireproof, verminproof and require little maintenance. FOAMGLAS is the only insulation that meets all these requirements. Here's why:

Since the sealed glass cells of FOAMGLAS are impervious to moisture, its insulating performance is consistent and long-lasting . . . reducing costly maintenance and replacement. In addition, this unusual insulation is light, yet strong and rigid. It is fireproof, vermin-proof and acid-proof.

You, too, are sure to find that FOAMGLAS is the ideal insulation for panel or other construction. Let us send you a sample and complete



information on how you can best use FOAMGLAS to meet your insulating needs. Write today telling us the use you have in mind.

### PITTSBURGH CORNING CORPORATION

Dept. B-104, One Gateway Center · Pittsburgh 22, Pa.

# **FOAMGLAS®**

the cellular, stay-dry insulation







Pittsburgh Corning also makes PC Glass Blocks

# 25 YEARS OF LEADERSHIP



Marlite's 25th year of service to dealers, builders, architects, and their customers begins October 7. From the original prefinished tile pattern created in 1930, Marlite's line has grown to provide a wall and ceiling panel for every room in every building.

Despite changing styles and a major depression, Marlite's sales and popularity have constantly increased. These are the reasons:

- Complete range of patterns—tile, plain-color horizontaline, wood and marble.
- Complete range of sizes—large Panels, Blocks (16 in. square), Planks (16 in. x 8 ft.).
- Complete range of colors including 10 new Raymond Loewy "Companion Colors."
- Strongest advertising, sales promotion, and dealer aids program in the industry.



- Warehouses and factory representatives conveniently located to serve you better.
- Highest product quality maintained through continuous laboratory and production controls.
- Unequalled consumer features—soilproof baked finish, easy cleaning, fast installation, economy, permanent beauty.



Marlite is made with genuine Masonite® Tempered Duolux®

MARLITE PLANK AND BLOCK PATENT APPLIED FOR

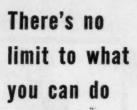
Marlite®
PREFINISHED
WALL and CEILING PANELING

MARSH WALL PRODUCTS, INC., DEPT. 1005, DOVER, OHIO Subsidiary of Masonite Corporation

PHILADELPHIA INTERNATIONAL AIR TERMINAL

Carroll, Grisdale and Van Alen
—Architects
John McShain, Inc.
—Builders

Throughout this ultra-modern structure, Architectural Terra Cotta in units 16" x 16" was specified for public areas and for exterior of mirador and control tower. Right — midnight black provides striking contrast for dining room. Below — selected shading of Architectural Terra Cotta units in gray and green adjoining walls, provides added character for spacious entrance foyer.



### ... with Architectural Terra Cotta



For plasticity of form, color and texture, no other building material gives you such unrestricted design freedom as Architectural Terra Cotta. It is custom-made for high quality and close tolerances to your precise specifications. You can select any color in the spectrum... choose any texture desired ... and design in large units or small, plain surfaces or decorative sculpture. What's more, Architectural Terra Cotta enables you to keep initial costs in line and maintenance at a minimum. The original richness and beauty of its glazed surface can be retained indefinitely by simple soap-and-water washings. Whatever the buildings now on your boards, you'll find that Architectural Terra Cotta compares favorably for quality, appearance, price and permanence.

Construction detail, data, color samples, estimates, advice on preliminary sketches, will be furnished promptly without charge on Architectural Terra Cotta and Ceramic Veneer.



### FEDERAL SEABOARD TERRA COTTA CORPORATION

10 East 40th Street, New York 16, N. Y. PLANTS AT PERTH AMBOY AND SOUTH AMBOY, N. J.



Architects — Earl W. Morrison and Donald N. McDonald, Seattle, Wash.

General Contractor—Brady-Swalling Construction Co., Anchorage, Alaska

Electrical Engineer — Erwin L. Weber, Seattle, Wash.

Electrical Contractor — City Electric of Anchorage, Anchorage, Alaska

SKYLINE ADDITION — At 1200 L Street, Anchorage, an imposing, new 14-story apartment building rises into the Alaskan skyline. Its *modern* exterior combines beauty and functional design. In keeping with this *modern* concept, Bryant quality wiring devices were specified.

SUPERIOR BRYANT SERVICE—For dependability, 1200 L Street installed the Bryant 1815-D, top wired, 10 Ampere switch. Duplex outlets are the Bryant 6122, ruggedly built with double-sided contacts and all-bakelite construction. Other Bryant devices are in use throughout the structure where reliable electrical service is a must.

FOR HOME, OFFICE AND INDUSTRY—Remember there's a full line of Bryant once-installed, stay-installed wiring devices to meet any specification in residential, commercial or industrial installations.

Listed by Underwriters' Laboratories, Inc.

#### THE BRYANT ELECTRIC COMPANY

Bridgeport 2, Connecticut

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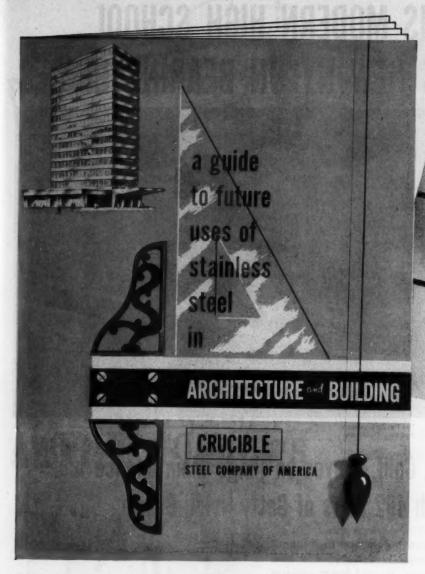


No. 1815-D Switch 10 Amps. 125 Volts 5 Amps. 250 Volts



No. 6122 Duplex Outlet 15 Amps. 125 Volts 10 Amps. 250 Volts

1-99911





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> **GET SOME SUGGESTIONS** IN THIS NEW BOOKLET ...

Stainless steel does things for architects and builders that no other building material can do. In many ways, it is absolutely unique. For example-it is strong and flexible in its applications . . . and, because of its heat resisting properties, well able to meet the most rigid fire tests.

In this new 24-page Crucible book you'll see why modern architects are turning to Crucible Rezistal® stainless steel for durability and cleanability . . . as well as to eliminate such costly recurring expenses as caulking, painting and pointing. You'll discover, too, that there's a Crucible stainless steel for every purpose . . . for proven resistance to most atmospheric conditions.

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# DOORS IN THIS MODERN HIGH SCHOOL SWING ON GETTY'S NEW NYLON BEARING HINGES



Architects: Wurster, Bernardi & Emmon

The Pacific Company
Berkeley, California

Hardware Contractor:

Marshall-Newell Supply Co. H. W. Sites, A.H.C., San Francisco, California

### New School in Antioch, Calif., Saves on Hinge Maintenance and Replacement Costs with 462 Pairs of Getty Nylon Bearing Butts

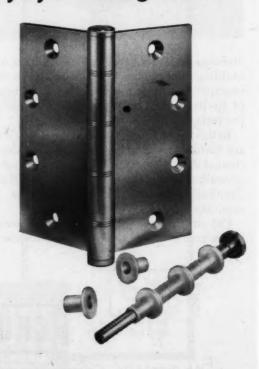
As you can see from the architects' drawing, the new high school in Antioch is one of the most beautifully designed and best equipped in the country. Longer hinge life and lower maintenance costs were written right into the plans when Getty Nylon Bearing Butts were specified for the majority of the doors.

Getty Nylon Bearing Hinges represent one of the most important improvements in hinge design in over 50 years. They swing smoothly and freely. They last for years, never need lubrication, and are moderately priced.

The Getty Nylon Bearing Hinge is made completely of extruded bronze except for the pin, which is stainless steel. The interior of the barrel is bushed in nylon, with the flanges acting as bearings.

These nylon bearings wear far longer than metal—never rust or corrode—are unaffected by weather. They save on upkeep because they never need lubrication. And they will not bind or squeak, even on little-used doors.

Getty Nylon Bearing Hinges are unquestionably the finest and most practical hinges you can recommend today—precision built for commercial, industrial, institutional or home installation. You'll want the whole story. For complete details, including specification data, write H. S. Getty & Co. now.

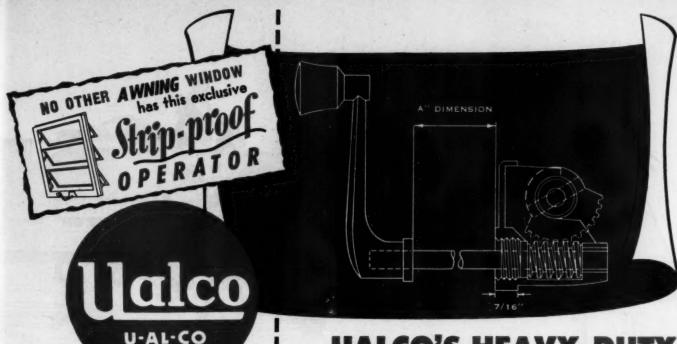


H. S.



& CO., INC., 3348 NORTH 10TH STREET, PHILADELPHIA 40, PA.

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### ALUMINUM : AWNING WINDOWS



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### Automatically Locks All Vents In Any Position

The heavy-duty built-in cam lock, attached to the torsion bar, is another functional achievement of Ualco advance engineering.

Assuring maximum operating efficiency and durability, it is "strip-proof" . . . maintenance-free. Eliminating the need of a separate locking handle, it further reduces operating parts.

The torsion bar, encased in four pillow block oilite bearings in the sill, requires only "finger-tip" operation to unlock, open and lock all vents in the desired position . . . to close and lock.

Such structural features continuously help to make Ualco Awning Windows the outstanding choice of building-wise planners, constructors, owners everywhere.

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Specifically designed to assist Architects, Engineers and Contractors in making "take-offs" and solving their window problems.

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WAREHOUSES: VAN NUYS, CALIF.; CANTON, OHIO; MONTGOMERY, ALA.; ELIZABETH, N. J.; HIALEAH, FLA





















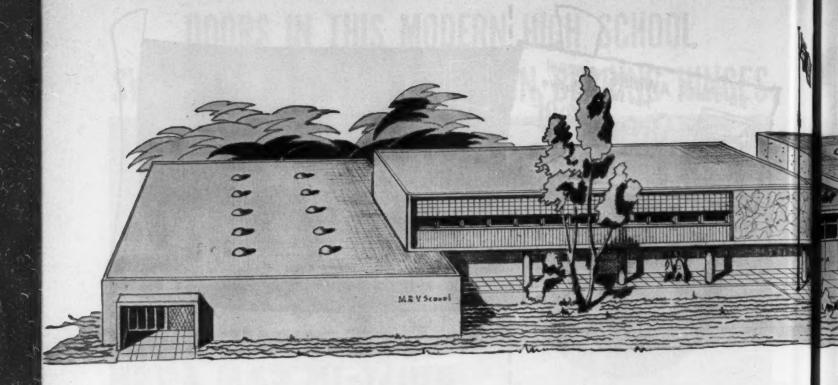




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UALCO WINDOWS ARE UNCONDITIONALLY GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP

WORLD'S LARGEST MANUFACTURER OF ALUMINUM WINDOWS



# IT TAKES MORE THAN MODERN DESIGN TO KEEP SCHOOL BOARDS HAPPY

We're talking about modern electrical practices that complement modern design and directly effect a majority of the functions a building must perform.

We're talking about the kind of controlled lighting and power facilities it takes to provide:

completely adequate and dependable power for the many electrically operated building services;

safe, positive power control through modern, automatic protective devices;

electrical flexibility to meet future expansion programs easily and economically.

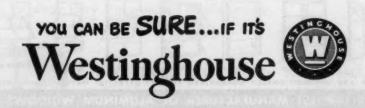
Those are things modern electrical practices mean. Certainly, they are an integral part of the building that should

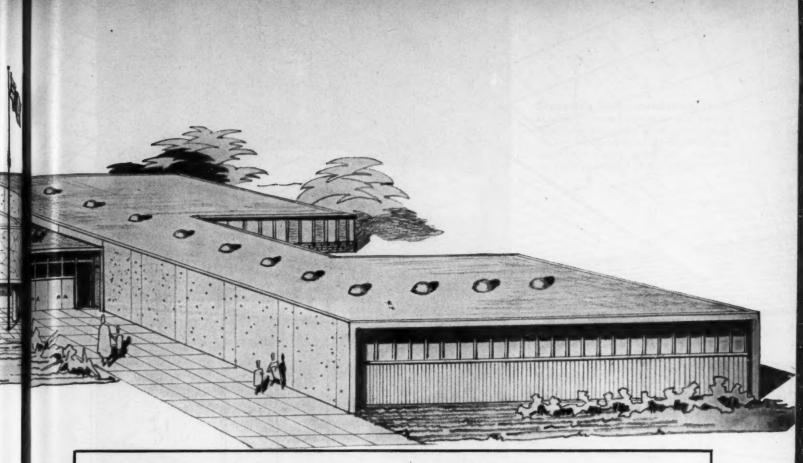
be weighed heavily in the study stage and developed as a part of your design planning.

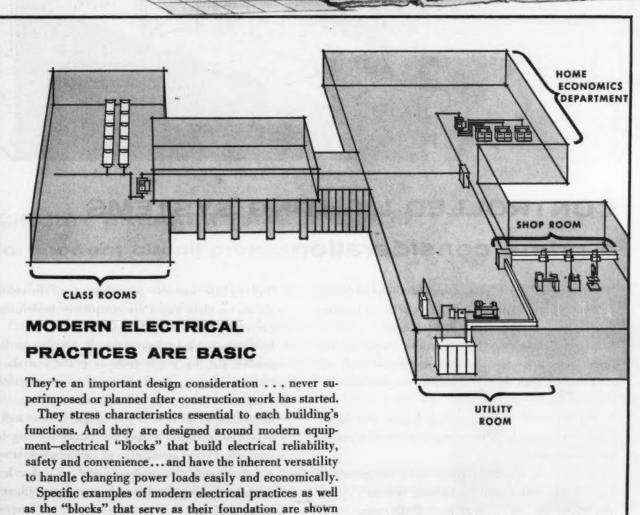
If carried out properly, this objective is automatically realized: You have matched the electrical facilities to the standards you've set for design. And, you'll be giving the school board a better building—one that provides for the maximum comfort, safety and well-being of its students.

A call to your nearby Westinghouse Office will bring a construction application engineer ready to help you integrate modern electrical practices into your next school design. Get in touch with him during the study stage. Westinghouse Electric Corporation, 3 Gateway Center, P. O. Box 868, Pittsburgh 30, Pa.

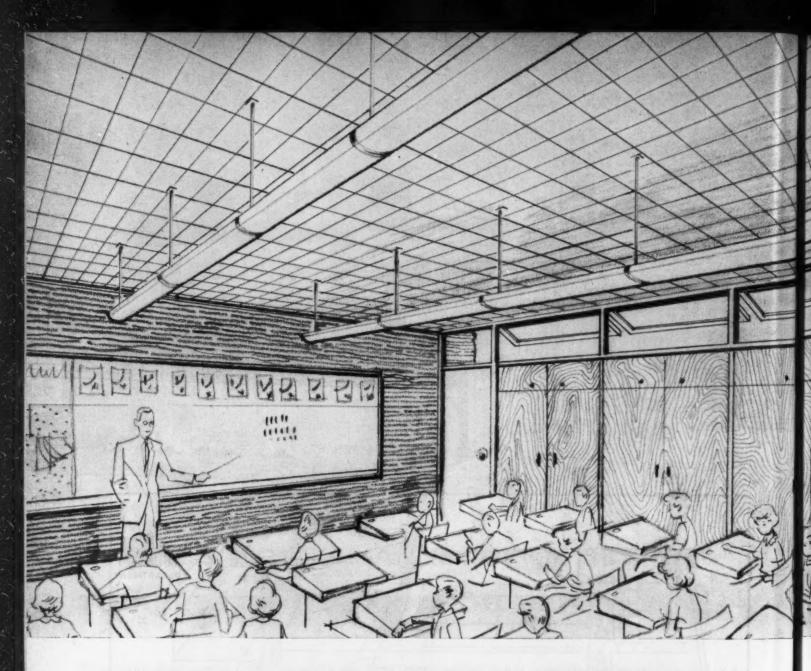
DP-5005-A







on the next four pages.



# CONTROLLED LIGHTING SYSTEMS ... a prime consideration

Where practical, we all realize the desirability of taking full advantage of natural light. As a primary lighting source, however, it has these disadvantages:

It cannot cover the entire classroom adequately. On bright days, it is uncomfortable—unless you block out the glare. On dark days, it is inadequate—far below the required lighting level.

And the trend to lower ceiling heights and larger classrooms is further eliminating daylight as a principal lighting means.

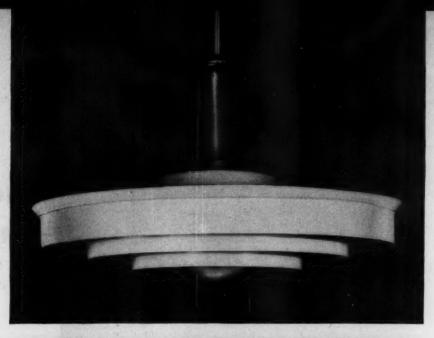
Therefore, it is a basic architectural assignment to provide adequate *controlled* lighting systems . . . for day-in, day-out use . . . in all parts of the room.

The two basic sources—incandescent and fluorescent—shown on these pages are completely modern and blend well with building design.

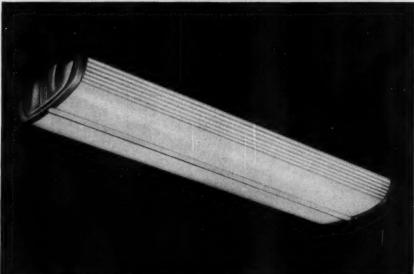
Economically, incandescent would seem to be less expensive. But that's only from an initial cost standpoint. Over-all, your client will find fluorescent systems less expensive to operate and maintain.

Regardless of the system you design, if done well it will provide adequate wiring for future lighting improvements. Proper installation of an incandescent system today means that a change-over to higher level fluorescent lighting can be made tomorrow without a need for rewiring.

DP-5005-B



Concentric Ring Incandescent luminaires are low in first cost to meet quality lighting requirements when initial funds are limited. Metal rings shield silver bowl lamps—eliminating glare and shadows. All light is directed to the ceiling.



CD-160 Semi-Indirect Fluorescent luminaires spell the ultimate in comfort for classroom lighting. They direct 72% of the light to the ceiling—the best method for illuminating classrooms. And they readily adapt to varying requirements... become an integral part of the room.

## CIRCUIT BREAKER PANELBOARDS... for modern circuit protection

School lighting systems are only as modern as the type and quality of the panel-boards that back them up. Here's why:

Panelboards are the nerve center of a building's electrical system . . . the means of controlling and protecting the lighting, appliance and power circuits.

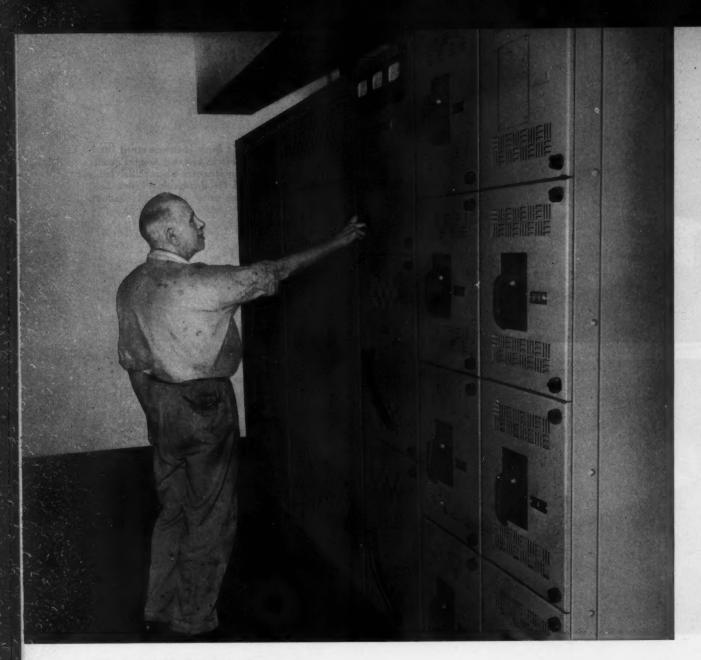
Modern electrical practices call for a panelboard like the Type NPLAB for lighting and appliance loads, at right. It provides circuit breaker protection—eliminating the danger of over or under fusing since there are no fuses to replace. Even inexperienced personnel can spot the tripped breaker after an overload. The breaker handle will have moved to a center position. By flipping it back, service is safely restored.

Further, the NPLAB houses more circuits in less space than most other panelboard types. It can be fabricated with blank spaces to provide for easy, economical addition of new circuits.

DP-5005-C

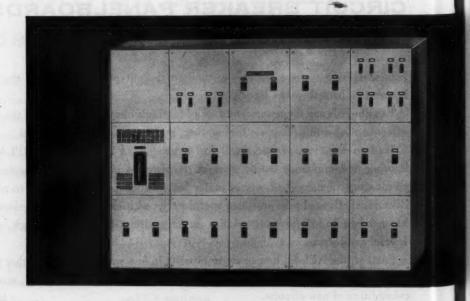






Coordinated Dry-Type Power Center—is the modern way to step down high-voltage power. Virtually a packaged substation that includes a transformer and air circuit breakers in a safe enclosure. Delivered to the building ready for immediate installation.

Building-Type Switchboard—the foundation of all electrically operated services when a building is supplied with low-voltage power. Provides positive circuit protection and switching equipment for incoming line and main feeders. Totally-enclosed sheet steel construction for added safety.



in fo m

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# MODERN POWER CONTROL . . .

safe, convenient, flexible

Inclusion of modern power control and distribution facilities in your design planning means this: You will have provided for completely dependable and safe operation of a building's many power consuming services.

And more. Not only will you have covered today's ventilating and lighting needs, the cafeteria appliances and shop machines . . . but also any electrical requirements that develop in the future.

Consider the Building-Type Switchboard (lower left)—an example of modern distribution facilities. It is used when a school is supplied from a low-voltage power source. It contains in a single, compact unit the control for the incoming line and main distribution feeders. New sections can be added easily and economically because all parts are standardized.

Consider the Coordinated Power Center (at upper left). Here is a packaged substation that reduces high voltage to utilization levels and provides modern circuit protection. Its dry-type transformer eliminates the vault required for liquid filled transformers and reduces maintenance. It is housed in a compact steel enclosure for maximum safety to personnel.

Other examples of the kind of equipment that goes with modern electrical practices are shown at right.

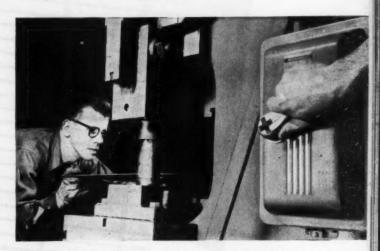
DP-5005-E

Westinghouse





Linestarter—in shops and utility rooms. Provides special control for starting, stopping and protecting the many motors in today's buildings. Groups of Linestarters in a single enclosure become a control center.



AB-I Circuit Breaker—protects circuits and students wherever power equipment is used. No fuses to replace. No danger of over or under fusing. After overloads, service is safely restored by flipping handle on outside of enclosure.



Bus Duct—the modern method of distributing power throughout the building. Plug-in type, above, is ideal for manual fraining departments and machine shops. Plug-ins every foot make it easy to relocate the machines.



MORE STRENGTH PER SQUARE INCH.
 A8" TITUS GYMNASIUM GRILLE supports the combined weight of 4 Titus factory workers.

# designed by

# Gymnasium Grille

Here's a grille that's been especially customed for school and institutional application. It features special built-in durability to withstand gymnasium use and abuse. Made to give long efficient service under the most rugged conditions of bouncing basketballs, baseballs, jarring kicks, and bumps. Has smooth contours, no sharp corners or points. Is safety approved for school use. Is simply so rugged it stops damage and replacement costs.

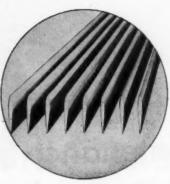
Clean cut, compact, created to blend with the lines of modern school architecture. Available as grille face only (Model G-1) or grille face with attached volume con-

(Model G-1) or grille face with attached volume of troller (Model G-2).

The Volume Controller features the famous solid section, extruded aluminum, streamlined Airfoil louvers.

Noise and turbulence are cut to a minimum. At the same time, perfect, draft-free air distribution is assured.

● 14 GAUGE ROUND EDGED FLAT WIRE STEEL BLADES ● VERTICAL STEEL SUPPORT BARS PLACED ON 6 INCH CENTERS ● 16 GAUGE STEEL EXTRA WIDE BORDER FOR EASY MOUNTING ● STANDARD GRADE PRIMER COAT FINISH.



 MORE AIR CONTROL PER SQUARE INCH. Close up view of Airfoil volume control louvers. Each blade is individually adjustable. Concealed louver support eliminates mullions and butted

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# DESIGNING A FACTORY? WAREHOUSE? TRUCK TERMINAL?

then it will pay you to include these in your plans...



# RITE-HITE ADJUSTABLE LOADING RAMPS

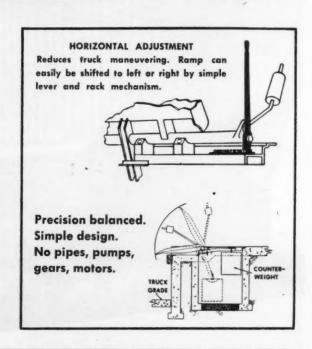
RITE-HITES enable you to utilize space available for loading dock to best advantage. They insure parking of trucks in an orderly manner, providing maximum use of dock approach space and efficient loading and unloading.

RITE-HITES can be installed singly or in multiples as requirements dictate. Simple mechanical design insures dependable all-weather operations. Little or no maintenance is needed.

RITE-HITES add practically nothing to new-construction costs and can be economically installed in existing loading docks. Detailed installation drawings and instructions are furnished with each unit.

RITE-HITES leave dock edge unobstructed. They can be modified at no extra cost to permit closing overhead doors when ramp is in raised position.

RITE-HITES are available in 3 types, 5 models, capacities: 10,000 and 20,000 pounds. Priced from \$395.00.



RITE . DIVISION

LOOMIS MACHINE COMPANY FOURTH AND PINE STS. . CLARE, MICH. Get complete installation details and 8-page descriptive bulletin. Write Dept. AR-104



### and in HOUSTON...

In Houston, Texas, as in every other center on the North American continent where large-scale, important building goes on, Aetna Steel, world's largest manufacturer of hollow metal products, is very much in the picture.

Aetna is proud to be the supplier of hollow-metal doors and frames to what will soon stand as the most dramatic feature of this thriving Southwest city's skyline—the new 20-floor, \$16 million aluminum-sheathed tower of The Second National Bank.

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Houston, Texas
ARCHITECT:
Kenneth Franzheim F.A.I.A.,
Houston, Texas
CONTRACTOR:
W. S. Bellows Construction Corporation,
Houston, Texas

AETNA STEEL PRODUCTS CORPORATION

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PRODUCERS OF: The new Arnot Partition-ettes; Arnot Functional Office Furniture; Hospital and Laboratory Equipment; Under-Counter Bank, Equipment; Aetna Steel Doors and Frames; Kahr Bearings; Boyle Metal Office Partitions (Aetnawall).



New YOUNG "Perimaheat" offers low cost . . . highly efficient hot water heating for every type of construction. It is the ultimate in modern heating design with many time and money saving features. Packaged in 6 and 8 ft. lengths, "Perimaheat" is light in weight, easy to handle, and easy to install.

Add new beauty, plus more usable wall space to your building projects with this New quality baseboard convector line. Use this convenient coupon to send for your free YOUNG "Perimaheat" Catalog, today!

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"Sales and Engineering Representatives in All Principal Cities"



Cross County Center's stores face along this landscaped mall. Roof overhangs provide shelter to shoppers on rainy days. Architect: Lathrop Douglass, New York City. Contractor: Simon Holland and Sons, Brooklyn, N. Y. Owner and builder: Sol G. Atlas, New York.

## BUILDINGS IN GIANT NEW YORK SHOPPING CENTER ROOFED ECONOMICALLY WITH STEEL JOISTS

Rapidly nearing completion in Westchester County, New York, is the huge Cross County Center, the largest shopping center in the East.

The modern ranch-style store buildings have been constructed around a 1000-ft mall, 70 ft wide. More than 50 retail stores will face the mall, and most of them will have access through rear doors to parking areas with space for over 5000 cars. Two major New York department stores will have branch stores in multiple-story buildings, one at each end of the mall.

In order to prevent traffic congestion within the center, a 1600-ft truck tunnel runs beneath most of the stores for pick-ups and deliveries.

Many of the one-story buildings along the mall have Bethlehem Open-Web Steel Joists. This construction provided maximum strength, rigidity and fire-safety, and held the roofing cost per foot to a minimum.

In the center's supermarket the planners of the building used Bethlehem Longspan Steel Joists in order to gain maximum column-free space in the store, with consequent

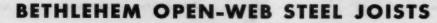


An interesting feature of this supermarket is its package conveyor system.

Customers can leave the store, get their cars, and drive to a portico where attendants will load packages into the automobiles.

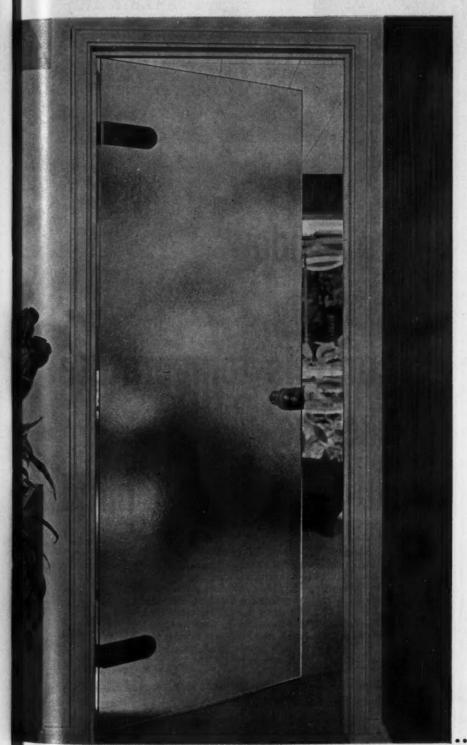
freedom in planning aisles and merchandise display. And Bethlehem Steel Joists offered several other practical advantages, which helped to keep down costs. They reached the job-site fully fabricated, marked and ready for placing. They needed only field-welding to secure them, and pipes and conduits were run through the open webs.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast
Steel Corporation. Expert Distributor: Bethlehem Steel Export Corporation





### Each room decorates the other...



Designed for Cappel, MacDonald Co., Detroit, by John B. Wisner, A. I. D., New York.



# through this lovely door

See how this door of translucent glass picks up the colors and light in the room beyond. Notice how it blends them and brings them through for a charming, decorative effect. Yet each room has privacy.

The Blue Ridge Securit\* Interior Glass Door is a single piece of glass patterned on both sides. And it's tough—tempered to take hard usage.

The Securit Door is easy to hang. It requires no cutting, no mortising. Distinctive, easily applied hardware and hinges come to the job with the door. When specified, the door can be shipped with a Sargent closer or prepared for use with an LCN concealed closer.

The cost of this door compares favorably with high-quality doors of ordinary materials—and you save on installation costs and maintenance.

The Blue Ridge Securit Door contributes new decorative appeal for offices or homes, for stores or institutions. This beautiful glass blends with all colors. And goes well with other building materials.

See your L·O·F Glass Distributor or Dealer about this new door. He's listed in phone book yellow pages in many principal cities. Or write Libbey Owens Ford Glass Company, Patterned & Wire Glass Sales, B-24104 Nicholas Building, Toledo 3, Ohio.

Glass—%" thick. Muralex pattern on both surfaces.

BRIEF

Tempered—Three to five times stronger than untempered glass of same thickness.

Reversible—Can be used right or left hand.

Standard Sizes—2'6" x 6'8" 3'0" x 6'8"

2'8" x 6'8" 3'0" x 7'0"

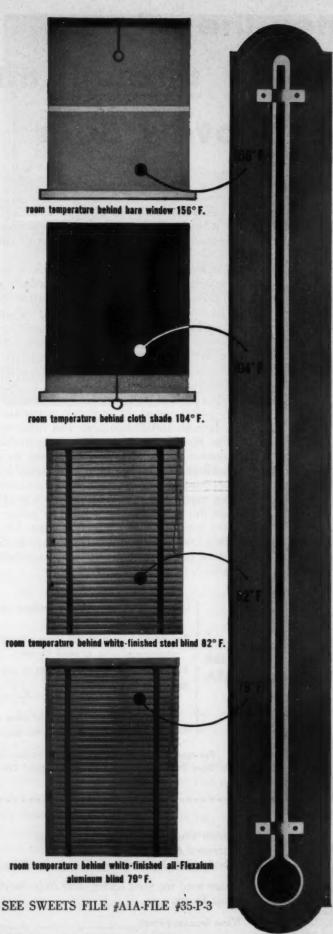
—also 4 sizes for openings of these dimensions with proper allowance for clearances.

For more complete information, see the Securit Door insert in the Sweet's Architectural File.

Libbey Owens Ford Glass Company Patterned & Wire Glass Sales B-24104 Nicholas Building, Toledo 3, Ohio

Please send me your folder, Blue Ridge Securit Interior Glass Doors.

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# no window covering controls temperature like the all-, Flexalum. blind

An objective study by the Faber Birren Company, shows: the all-FLEXALUM aluminum blind controls room air temperature more effectively than any other window covering—including venetian blinds made with other materials. An even more dramatic difference was obtained by measuring the surface temperatures of unfinished Flexalum aluminum and raw steel exposed to solar heat...the FLEXALUM reading was 19° F. lower. This study points to all-FLEXALUM blinds as an effective way to reduce heat.

only all-Flexalum blinds have all these long-life and low-maintenance advantages:



Tapes - Won't fade, fray, shrink or stretch.



aluminum slatschip, crack or peel.



Long-Wear Nylon Cords - Won't fade or Snap back to perfect fray. Tassels are noise-shape. Won't rust, less, unbreakable less, unbreakable plastic.

\*Copies of this study available on request. Write for local Flexalum sources, free file of venetian blind information HUNTER DOUGLAS CORP., 150 BROADWAY, NEW YORK 38, N. Y. . IN CANADA, HUNTER DOUGLAS LTD., MONTREAL 3, QUEBEC



### FULLY CLOSED RISER BOARDS MAKE WAYNE GYMSTANDS SAFE ALL-WAYS!

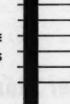
How many times have you hesitated cautiously and with concern when leaving the stands after a game? You could see the maze of understructure and look at the floor below. You were relatively safe, of course, but you didn't feel safe, and that's important!

Wayne Gymstands use "riser" boards that completely close the vertical gap between the foot and seatboards. They help the spectator to feel safe and secure. His feet can't slip because there's no place for them to go! And he doesn't think of falling because he doesn't see the understructure or floor directly beneath him.

The fully closed riser board is an *important* Wayne Gymstand feature. Like other Wayne construction features, it puts a premium on spectator safety. And, it's another good indication that Wayne builds gymstands better.

YOURS FOR THE ASKING! A new, revised Rolling Gymstand Catalog No. R-54. Write direct to Dept. A-10 please . . .

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Greater angle of clear view and greater slope of sight line—for better visibility.

Alignment frames keep rows parallel during opening and closing.

Completely vertical front when closed—for a practical—smarter appearance.

Column base plates transmit live load to floor.

Column feet provide stability.

Wheels travel independent parallel paths—for ease of movement—prevents floor grooving.

Meets all and beats most grandstand safety codes and regulations, including California earthquake test.

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### "Working Walls" bring better, neater, safer storage!

Closets that multiply storage capacity! Garages that are easy to keep clean and orderly! Workshops organized for true efficiency! Kitchens where everyday items are always handy!

That's part of the magic of Masonite Peg-Board panels and fixtures. There's more magic, too, in the living room, for a woman can arrange and re-arrange her decorative objects at will...with a twist of the wrist. Interchangeable metal hangers (more than 60 varieties) lock on, lift off without tools.

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hardboard panels with their hundreds of clean perforations. They're as easy to buy as a 2 x 4. Write for complete information or refer to Sweet's File Surfacing and Paneling 13b.



## "Now we can enjoy peace of mind. a Koppers Roof protects



Since a Koppers Roof was installed on the famous Pasadena Playhouse, the management no longer worries about possible water damage to costly interior fittings. As Mr. Prickett, Executive Vice-President, so aptly puts it-"We were finally relieved of this worry."

Koppers Roofs have a well-earned reputation for protecting buildings and contents from water. Coal-tar pitch, the basic ingredient in Koppers Roofs, is well known for its waterproofing qualities. It resists water without deteriorating.

Many Koppers Pitch and Felt Roofs have been in use for over 20 years and are still pleasing owners. These roofs are widely used to protect commercial, industrial and residential buildings. Full information on request, or see our specifications in Section 7a — Sweet's Architectural

> Roofer: John W. Lytle Corp., Pasadena, Calif.



the Pasadena Playhouse"

July 23, 1953

says CHARLES F. PRICKETT

**Executive Vice-President** 

Mr. Maynard Neilson John W. Lytle Corporation 2383 E. Walnut Street Pasadena, California

Dear Mr. Neilson:

For many years we were troubled with the problem of water standing on the roof of our main auditorium. We knew the possible consequences of such a situation, and a roof failure over this auditorium with its costly interior. possitus consequences or such a situation, and a roof failure over this auditorium with its costly interior fittings would have been disastrous.

When you applied a KOPPERS COAL TAR ROOF to the Playhouse, we were finally relieved of this worry. Now we can enjoy the peace of mind that comes from knowing our auditorium as the maximum protection good roofing affords. has the maximum protection good roofing affords.

May we express our sincere thanks for the fine job your company did.

Charles F. Prickett Executive Vice-President

CFP: jmb



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PLAIN TALK! Here's what the Buchart Engineering Corp., York, Pa., School Designers, has to say about the dependability of Sarco Heating Specialties:

"...all our school projects equipped with Sarco traps, temperature regulators, water blenders and heating specialties have had satisfactory, dependable service throughout the years."

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This record of confidence is convincing testimony to the dependability of Sarco Heating Specialties.

Why not specify Sarco on your next project and be assured of the same dependable performance.

Full information on all Sarco products is available on request. SARCO COMPANY, Inc., Empire State Building, New York 1, N. Y. Representatives in principal cities.

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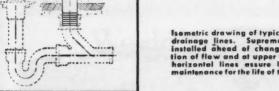




## CODE REQUIREMENTS

for cleanouts are seldom more than MINIMUM REQUIREMENTS

. leaving clients vulnerable to repeated unnecessary expense



Isometric drawing of typical rest room drainage lines. Supremo Cleanouts installed ahead of changes in direc-tion of flow and at upper terminals of horizontal lines assure low cost of maintenance for the life of the building

Day-to-day cost of maintaining buildings can become a very large item if gaining access to drainage-line stoppages requires destruction of fittings, walls or floors. Lack of sufficient accesses and use of cleanouts which merely meet code requirements are the causes of such needless expense. As anyone who has ever tried to remove one knows, ordinary "cleanout plugs" freeze immovably in a matter of months. SUPREMO PERFECT SEAL CLEANOUTS will always provide quick, sure access and positive re-sealing, whether the installation is two months or twenty years old.

Code requirements can be hazardous in the matter of cleanout location, as well. Every building drainage plan presents a new set of potential "trouble zones". Provide SUPREMO PERFECT SEAL CLEANOUT access not only at the usual 50-foot intervals, but at every foreseeable trouble zone. It is a client obligation, which, if observed, will pay dividends for years to come.

## J.A. ZURN MEG. CO.

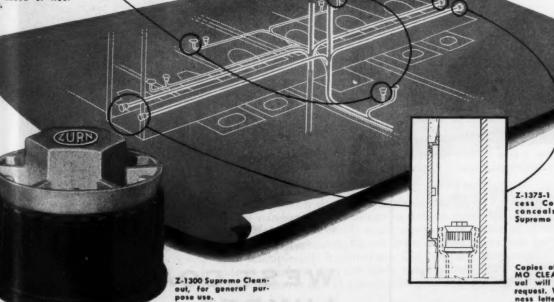
Sales Offices in Principal Cities of the World AFFILIATE: AMERICAN FLEXIBLE COUPLING COMPANY IN CANADA: CANADIAN ZURN ENGINEERING LTD., MONTREAL, P. Q.

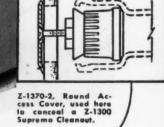
SUPREMO CLEANOUTS and

ACCESS COVERS

.... EXCEED CODE REQUIREMENTS - PROVIDE SURE, QUICK NON-DESTRUCTIVE **ACCESS TO DRAINAGE** LINES WHENEVER IT IS NEEDED!

WHERE SHOULD CLEANOUT ACCESS BE LOCATED? Below, in isometric view, is a drainage plan for a typical rest room, conceived to illustrate the use of various SUPREMO PERFECT SEAL CLEANOUTS. This plan, one of several presented in the new SUPREMO CLEANOUT Manual, was developed to suggest ways in which SUPREMO CLEANOUTS can be used to reduce building mainlenance costs.





Z-1375-1 Square Access Cover, neatly conceals a Z-1300 Supremo Cleanout.

Copies of the SUPRE-MO CLEANOUT Man-ual will be sent on request. Write on busi-ness letterhead or al-tach coupon below.



PLUMBING DIVISION PRODUCTS INCLUDE EVERYTHING FOR DRAINAGE SYSTEMS FROM ROOF TO BASEMENT

J. A. ZURN MFG. CO., Plumbing Division Erie, Pa., U. S. A. Please send my copy of the new Supreme Cleanout Manual. Name and Title..... Company.....

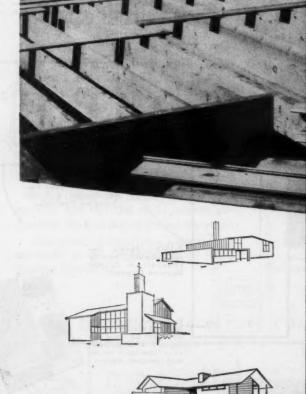
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B&W Integral-Furnace Boilers, Type FM, in service at Nabisco. Delivered completely shop-assembled, FMs are ready to skid or lift into position, connect to services, and place in operation.

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served by 3 B&W Integral-Furnace Boilers, Type FM

Typical of the increasing demand for the B&W Type FM Boiler was the choice of a multiple-unit installation for the largest, most modern bakery in the world, capable of producing 167 million pounds of baked goods annually. Occupying 12 acres of a 45-acre site, National Biscuit Company's new Chicago bakery is an outstanding example of scientific application of straight-line mass production methods combined with the highest standards of cleanliness and sanitation, and striking architectural beauty.

Since January 1952, the three FM units have been generating steam for heat, hot water, and various processing operations, such as melting shortening for easier unloading from tank cars and to facilitate its distribution within the plant.

Designed to produce 25,000 lb of steam per hr each at 110 psi pressure, the B&W Units are oil-fired—make

COST-SAVING FEATURES of the **B&W Type FM Boiler** 

- Saves Erection Time and Cost
- Meets Wide Range of Service
- **Handles Quick Load Changes**
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- Low Maintenance
- Easy Accessibility
- Suitable for Outdoor Service
- Burns Oil and/or Gas
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- Safe, Automatic Operation

a positive contribution to the elimination of smoke and fly ash required by Nabisco. Choice of the three FM boilers rather than a single, larger unit resulted after careful consideration of all factors and a realization that the FM unit offers the benefits of "package" steam combined with many costsaving big-boiler advantages.

Satisfaction with the performance of the B&W Type FM Boiler is proved by the number of units in service and on order for industries, utilities, and other users in practically every category. In terms of total steam capacity they add up to about 9,000,000 lb per hr, and better than half of this capacity is in multiple-unit installations. The compact, shop-assembled FM is available in standard sizes for loads ranging from 2900 to 36,000 lb per hr at steam pressures to 235 psi-is also available for higher pressures.

Bulletin G-76A describes in detail the many cost-saving features of this self-contained, popular small boiler. Write for your copy. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd St., New York 17, N. Y.



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Rotary Oildraulic Elevator (Freight) installed by Hunter-Hayes Elevator Co.

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This modern air-conditioned building of Texas Instruments Incorporated provides 150,000 square feet of space for design and manufacture of Tl's precision equipment in the fields of electronics, acoustics and geophysics. A Rotary Oildraulic Elevator serves the Radar Tower at this magnificent plant in Dallas, Texas.

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## No penthouse or heavy supporting sidewalls

The Rotary Oildraulic Elevator is moved and controlled by oil under pressure, the most powerful and practical method of lifting heavy loads. The elevator car and its load are supported by the hydraulic system—not by the building structure. This eliminates the costly, unsightly penthouse and makes possible a substantial lightening of the shaftway structure. Rotary's compact power unit can be located on any landing, on any side of the hatchway. Thus it can be placed in an area with other mechanical equipment for convenience in servicing and to save valuable space.

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The revolutionary Rota-Flow oil hydraulic power system gives velvet-smooth fluid operation. You can depend on smooth starts and cushioned stops. Oildraulic automatic floor leveling positions the car to each landing with exactness—X" is guaranteed!

Over 75,000 Rotary Oildraulic elevators and lifts are serving leading companies from coast to coast. They are manufactured in sizes and capacities as specified, with any desired types of cabs, doors and controls. Our Engineering Department will be glad to assist you on plans and specifications. Write for catalog and complete architectural data.

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Specify B. F. Goodrich Koroseal Vinyl Floor Tile for long-lasting beauty, service and economy . . . and for complete client satisfaction. It is the one floor tile with these 4 important features:

Never Needs Waxing - Minimum care and lower maintenance costs.

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These features - all combined in this one floor tile - have been developed and perfected by B. F. Goodrich, the originators of flexible vinyl plastics.





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THE NEW MODEL M has a two-rate charger—high rate or trickle. After the emergency, automatic controls recharge the Exide battery specially developed for dependable operation, long life, less maintenance. UL-approved. Plugs into any 115 volt outlet. Single and double lamp units are available; each lamp illuminates up to 10,000 sq. ft.

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## CHASE copper drainage tube fits within standard partitions!

For a neater, more compact drainage installation, insist on *Chase* Copper Tube for soil, waste and vent lines.

Chase 3" Copper Drainage Tube fits within standard partitions, eliminates the need for costly and unsightly furring-out construction that's required with ordinary drainage materials.

The smooth inside surfaces of Chase Copper Drainage Tube and Solder-Joint Fittings permit fast, even drainage...there are no internal projections to form waste-trapping pockets. And, of course, copper can never clog with rust!

What's more, because *installation* costs are lower, the *total* cost of a quality Chase Copper Drainage System is little or no more than the cost of an ordinary system.

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Where dependability is the first requirement...where uninterrupted power flow is required on a consistent basis... Slater wiring devices are selected.

Incorporating every modern method in precision production.

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Architect: KELLY and GRUZEN, N.Y.C. Consulting Engineer: KREY and HUNT, N.Y.C.

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## QUIET: Good for what "ails" a Clinic

When Mayo Clinic, Rochester, Minn., chose Acousti-Celotex tile to sound-condition its beautiful new Diagnostic Building—it hit upon the most economical, attractive, lowest-cost way possible.

For here was an example-in-use of efficient materials with high sound-absorption value . . . plus quick and easy installation, and minimum maintenance . . . plus magnetic eye-appeal that blended harmoniously with the established decor.

#### Varied Materials Used

In the total 187,175 square feet of acoustical treatment given the Diagnostic Building, a variety of Acousti-Celotex tile types were utilized to meet specific needs. Where frequent cleaning was an important factor, Acousteel was installed. To answer the essential purpose of washability and paintability... Acousti-Celotex Perforated Mineral Fiber Tile. And Celotone®, an incombustible fiber tile with rich, deep, sculptured effect, proved the ideal solution in every instance requiring smart decoration. All tile is white, except for areas such as the beautiful elevator lobby

pictured above. This was spray-painted green.

#### Remarkable Results

In the Acousti-treated areas . . . elevator lobbies, corridors; seminar, secretaries', and audiometer rooms; and in desk sections . . . the acoustical results are extremely gratifying. Where the routine noise of daily clinic activity might be a source of high irritation to all occupants of the building . . . Acousti-Celotex Sound Conditioning brings quiet comfort that helps patients rest and relax, improves morale and efficiency of the clinic staff.

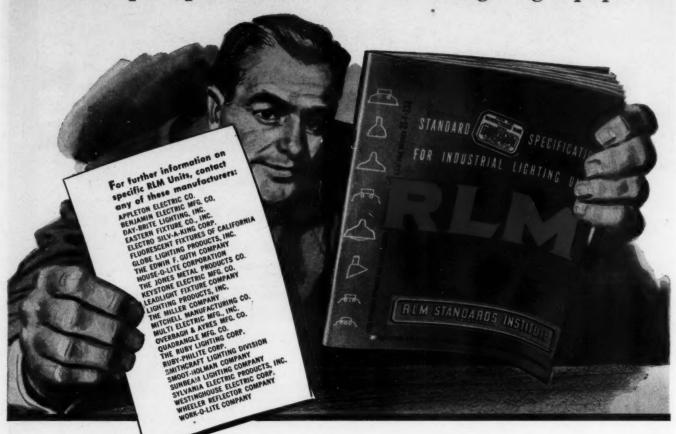
No matter what the project... whatever the requirements of acoustics, building code, or design itself... your local Acousti-Celotex distributor is ready to assist you. His training, backed by the world's most experienced acoustical organization, can help you solve your specifications problem. For details, write The Celotex Corporation, Dept. B-104, 120 S. LaSalle St., Chicago 3, Illinois. In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec.

**Products for Every Sound Conditioning Problem** 



THE CELOTEX CORPORATION, 120 S. LA SALLE ST., CHICAGO 3, ILLINOIS . IN CANADA: DOMINION SOUND EQUIPMENTS, LTD., MONTREAL, QUEBEC

This FREE RLM BOOK brings you valuable information on the Proper Specification of Industrial Lighting Equipment



provides you with Specification Data covering

## 4 ESSENTIALS to GOOD LIGHTING EQUIPMENT PERFORMANCE

and the names of manufacturers from whom you can secure such equipment

These are the 4 ESSENTIALS TO GOOD LIGHTING EQUIPMENT PERFORMANCE ASSURED BY THE RLM LABEL:

- 1. High Light Output—to assure you of MORE LIGHT FOR YOUR MONEY
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- 3. Quality Construction—to assure you of MINIMUM MAINTENANCE COSTS
- 4. Uniform Quality from fixture to fixture
  —to assure you of UNIFORMLY
  SATISFACTORY RESULTS throughout
  the lighting system

● Everyone who buys, sells and specifies industrial lighting equipment should have a copy of this helpful 52-page reference work. It contains nationally-recognized standard specifications for 75 types and sizes of industrial lighting units. Each one of these specifications incorporates the first three of the four "Essentials to Good Performance" listed at the left.

The RLM Specifications Book also explains fully why the RLM Label on lighting units is a Warranty for Uniform High Quality. It points out why you can rely on RLM-Labeled units of the same manufacturer to maintain a certain quality level within

your lighting system. Knowing that you can depend on such uniform quality, saves time, money and labor, in terms of such factors as uniformity of illumination, minimum service interruptions, low operating and low maintenance costs.

Also included with this free book is a list of the manufacturers who make RLM-Labeled lighting units. Act now to get up-to-date on proper specification of lighting equipment that assures you of 4 Essentials of Good Lighting Equipment Performance! Send for your free copy of the RLM Specifications Book. RLM Standards Institute, Suite 827, 326 W. Madison St., Chicago 6, Ill.

R741



## Modern design for busy buildings



Utica Mutual Insurance Company, New Hartford, New York. Heating Contractor: A. J. Eckert Co., Albany, New York



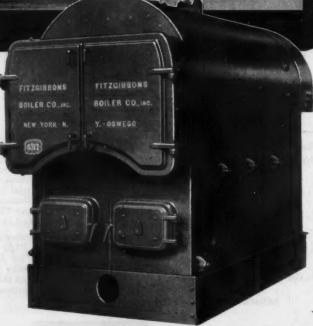


Edgewood School, Highland Park, Ill. Heating Contractor: W. G. Godfrey, Chicago, Ill.

## with modern heat by **FITZGIBBONS**

CHILDS & SMITH, ARCHITECTS AND ENGI-NEERS, CHICAGO, designed these three beautiful buildings. In specifying Fitzgibbons boilers for their buildings, they follow the modern trend among architects, engineers and the heating trade, which recognizes Fitzgibbons as "The Best in Steel Boiler Heat."

For complete information write to Fitzgibbons Boiler Company, Inc., 101 Park Avenue, New York 17, N. Y. Ask for Catalog AR-10.



The Fitzgibbons "D" Type Steel Boiler, for heating any type of large building, using oil, gas or coal.



The Fitzgibbons Boiler SBI





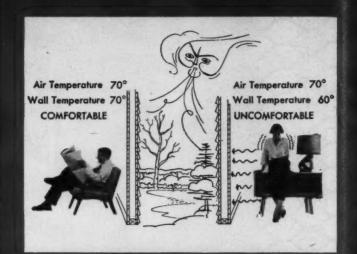
On the following fifteen pages of this publication, members of the Metal Lath Manufacturers Association call attention to the construction advantages and cost-saving features of some of the modern uses for metal lath and plaster. There are many uses other than those described. Products or systems of each of the member companies are not confined to those listed in their individual advertisements. Further information may be obtained by writing to member companies or to the association — or referring to Sweet's Files, Architectural.

### METAL LATH MANUFACTURERS ASSOCIATION

Engineer's Building

Cleveland 14, Ohio

Metal Lath in intimate contact with the tubing, in radiant panel heating, distributes the heat evenly through the plaster slab. Tests prove that it actually increases the quantity of heat transfer from the coils to the radiating ceiling surface for any given water and room temperature.



Warm walls and floors, cooler and healthles als, climination of dialis uniform room temperatures, freedom of furniture location, freedom of partition layout and smaller fuel bills are the principal advantages of radiant panel heating.

# Alabama Metal Lath Distributes the Heat Cuts Heating Costs Assures Finest Construction in Radiant Panel Heating

Because metal lath reduces by almost 50% the resistance to heat flow through plaster, it is by far the most economical type of ceiling for radiant panel heating.

#### Ceilings are the Best Radiant Panels

For a given amount of heat output, a metal lath and plaster ceiling panel transmits 70% by radiation as against 60% from wall panels and less than 50% from floors. Furthermore, radiant ceilings warm floor and walls, provide healthier comfort and eliminate the possibility of corrosion sometimes found in concrete floor panel heating.

#### Reaction Time is Less in Metal Lath Ceilings

A metal lath and plaster ceiling reacts more quickly to temperature changes than a concrete slab because it stores less heat. In addition, metal lath distributes the heat more evenly over any panel surface, practically eliminates "hot strips" in panels.

#### Write for Literature on Metal Lath and Radiant Heating

Alabama Metal Lath Company makes a complete line of metal lath products. A catalog of those products and a copy of the Metal Lath Manufacturers Association booklet on Radiant Heating in Ceilings will be sent upon request.

## ALABAMA METAL LATH COMPANY

P. O. Box 992 • Birmingham, Alabama



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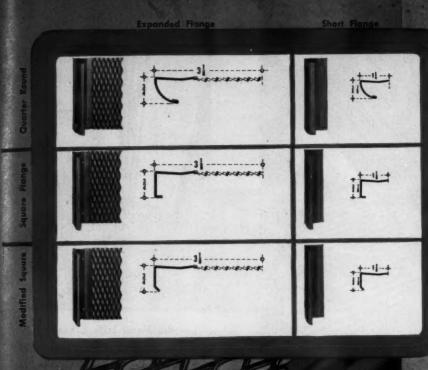
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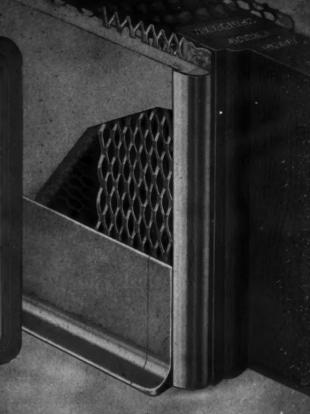
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# Bostwick Door and Window Casings Reduce Costs More than Half

Bostwick Casings provide both screeds and trim in a single product that requires only one installation operation. They can also be used as chip-proof dividers between plaster and other materials, such as tile. The result is a better-looking, longer-lasting job, at less than half the cost of other finishes for wall openings.

### **Smart Interior Beauty**

Bostwick Casings provide a smart, good-looking trim on doors, windows and other openings — actually make rooms look larger. Their simple beauty harmonizes with all types of interior decoration.

## **Lasting Quality**

n y

s

Bostwick Casings are ideal for use with metal lath and plaster. They reinforce the plaster and protect the openings with the endurance of steel... won't crack, splinter, chip, warp, shrink, or swell. They are fireproof — part of the complete line of Bostwick Metal Lath and Accessories.

Write for Literature

Bostwick THE BOSTWICK STEEL LATH CO. 101 HEATON AVENUE, NILES, OHIO



Bostwick Casing may be installed to lap the door frame as shown. The nailing flange has a slight bend which acts as a spring to insure a tight fit against the frame of openings.



if the door frame is erected after plastering, Bostwick Casing is Installed flush with the buck. A small molding closes the Joint between buck and frame.



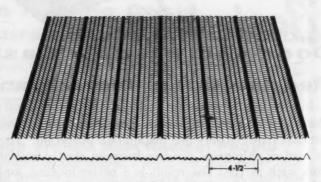
Bostwick Casings around windows assure full plaster thickness and sharp, straight edges. They are not subject to warping or shrinksae.

## METAL LATH has no equal for \_a

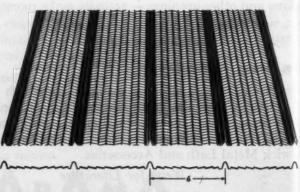




View from underneath shows how Metal Lath mechanically bonds to bottom of slab.



Ceco 3/8" Rib Lath



Ceco 3/4" Rib Lath

TYPES OF METAL LATH USED FOR CONCRETE CENTERING

## or \_asting QUALITY, Genuine ECONOMY





Concrete is poured and surfaced over

## Metal Lath Centering

offers proved efficiency and economy as a rigid form and reinforcing for concrete slabs over steel joists

In its function as a reinforcing, Rib Lath is unsurpassed by any other centering material. Rib Lath has uniquely-shaped openings which permit the concrete to flow through and grip the steel strands. Hundreds of such keys in each square foot mechanically bond the metal lath to the bottom of the concrete slab, thus performing a true and dependable job of tensile reinforcing. There is also a positive tie between the steel joists and the concrete slab. The joist top chords receive continuous lateral support and the slab and steel joists are bonded together in a rigid floor system.

#### Metal Lath Centering is Economical

Rib Metal Lath is a low-cost material that is quickly placed and inexpensively tied or clipped to the supporting steel joists. It comes in convenient-to-handle sheets and is a standard product stocked by building material dealers. Because Metal Lath is rigid, there is less sag between joists and less concrete is needed.

#### Metal Lath Provides a Rigid Form

Rib Metal Lath used as a form for short-span concrete slabs has closely spaced stiffening ribs which run the full length of the sheet. It rigidly spans from support to support and does not depend on being stretched taut to carry wet concrete. Since there is no side pull on the joists, there is no need for costly temporary bracing. Nor is there danger of twisted or weakened joists.

CECO makes a complete line of METAL LATH PRODUCTS

For further information write:

## STEEL PRODUCTS CORPORATION

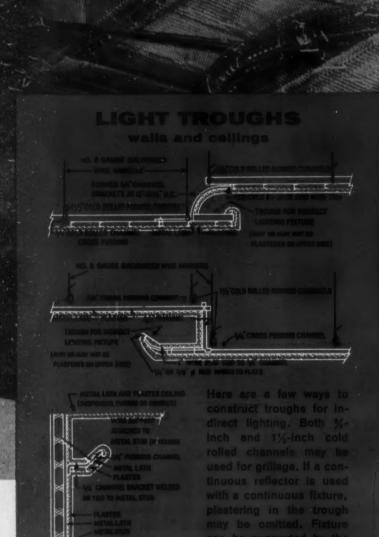
Offices, Warehouses and Fabricating Plants in Principal Cities

General Offices: 5601 West 26th Street

Chicago 50, Illinois



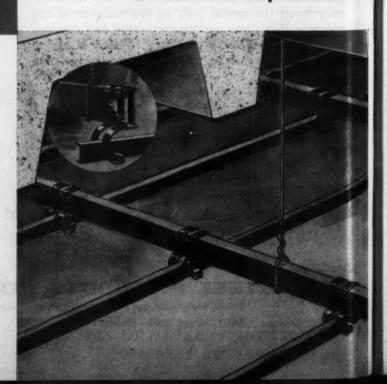
## SPECIFY PLASTER ON METAL LATH FOR



Flexibility of Design... L with suspended

#### USG Metal Lath Resilient Lathing System

In this system, a No. 100 clip replaces the tie wire, thus providing resilient attachment of furring channel to runner channel. Resilient lathing offers greatly increased protection against plaster cracking due to structural movement—floats plastered surfaces free of structural members. Well adapted for use with suspended ceilings.



LASTING QUALITY AND GENUINE ECONOMY



# Long Life...Lasting Beauty...Get all Three ceilings of USG\* Metal Lath and Plaster

**DESIGN FLEXIBILITY—** the suspended metal lath ceiling takes any position or form designated by the architect.

**DURABILITY**—has all the advantages of metal lath . . . inherently strong and long-lasting because bond of plaster to lath is mechanical; in effect, provides "steel-strengthened plaster."

**BEAUTY**—the most, practical way to develop graceful, attractive ceilings... arched, groined, coffered or domed.

ACCESSIBILITY—not only conceals, but gives freer access to structural members, electrical

UNITED STATES GYPSUM

USS

conduits, plumbing, heating ducts and air conditioning equipment.

**LIGHT WEIGHT**—frequently specified in place of thick, heavy concrete construction.

**FIRE RESISTANT**—obtains fire ratings up to four hours, depending on type and thickness of plaster used.

**ECONOMICAL**—ease of erection and low cost have been demonstrated for years in both modernization and new construction.

FOR COMPLETE INFORMATION, write Dept. AR5, 300 West Adams St., Chicago 6, III.

the greatest name in building

\*T.M. Reg. U.S. Pat. Office

## PLASTER on METAL LATH has no equal o

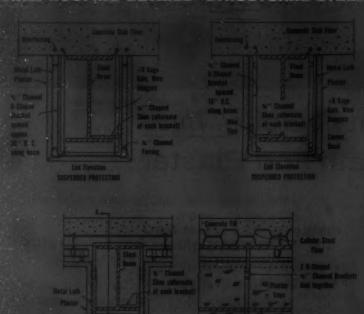


Milker Furiath "dimples" are placed against column flange,



Allies diponsion Corner Seess are wired to

#### FIREPROOFING DETAILS-STRUCTURAL STEEL

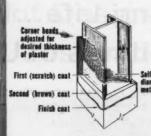




COMPANATION OF FURNIS AND CHESTINGS AND CHESTINGS



Test column is removed from furnace after successfully withstanding flaming gas jets for four hours and temperatures up to 2,000 degrees F.

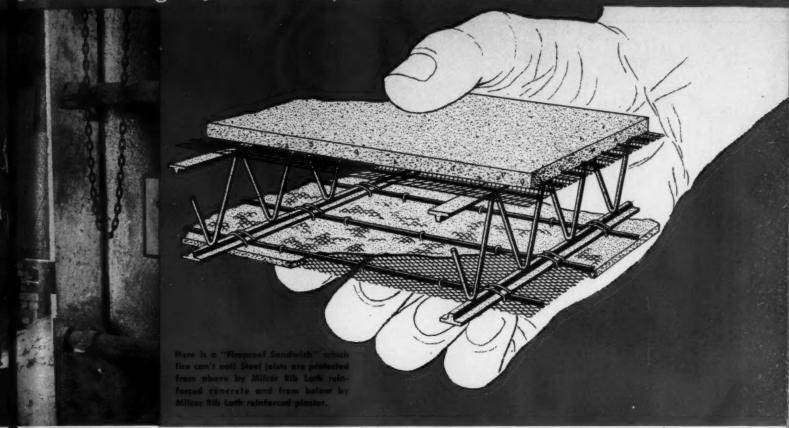


#### Fireproofing Steel Columns

In a system that cannot be equalled for simplicity and economy, metal lath is wrapped around the column, corner beads attached and plaster applied to varying thicknesses depending upon the fire rating desired.

Diagrams at left show details of fireproofing structural steel.

or Lasting QUALITY, Genuine ECONOMY



## MILCOR METAL LATH PROVIDES FIRE SAFETY AT MINIMUM COST

METAL LATH MEMBRANE FIREPROOFING consists of a thin, lightweight, fireresistive ceiling, stretching from wall to wall beneath the structural members of a building. It enables an impressive weight saving over conventional construction by employing lighter fireproofing, lighter floors, lighter structural members and lighter construction all the way down to smaller footings.

METAL LATH MEMBRANE FIREPROOFING has more qualifying fire tests than any other fire protective construction in use today.

#### Membrane Fireproofing for Beams, Girders, Trusses

An insulating membrane of metal lath and plaster, placed to protect structural steel from fire below, is the most effective and least expensive method of fireproofing. The highest fire ratings required by building codes are easily achieved with metal lath membrane fireproofing.

#### Membrane Fireproofing for Steel Joists

Fire resistance ratings of from 1½ hours up to 4 hours (depending on materials used) have been granted for metal lath membrane fireproofing on steel joists. Rib metal lath is used over the joists as a combination form and concrete floor reinforcing and also fastened to the underside of the joists as a base for the plastered ceiling.

#### Membrane Fireproofing for Cellular Steel Floors

Hot gases and flames naturally rush upward in a burning building. Cellular steel floors require adequate protection from fire underneath and Underwriters' Laboratory tests prove that metal lath membrane fireproofing offers a satisfactory solution to the problem.

#### **Fireproofing Steel Columns**

Pound for pound and dollar for dollar, metal lath and plaster has no equal for fire protection over steel columns. Savings in the cost of fireproofing are great, but savings in structural framing are even greater because of reduced

See the Milcor Manual in Sweet's File, Architectural for the complete line of Milcor Metal Lath and Accessories.

\*Reg. U. S. Pat. Off.

## .AND>STEEL PRODUCTS COMPAN

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## PLASTER on METAL LATH has no equal f

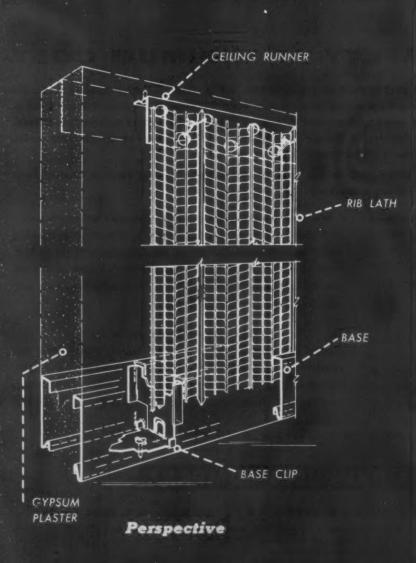






Gold Band Metal Base Clips are stub-nailed on partition conterline every 12" or 16".

Langths of Metal Base streaming into place over the Motal Base Clips.





ial for Lasting QUALITY, Genuine ECONOMY



Gold Bond 1/6" Rib Loth reinforces the partition.



The partition is plastered on both sides of the metal both to a two-inch thickness.



Finished partition is light-weight, surpris-

# Gold Bond Studiess Metal Lath and Plaster 2" Solid Partition

Cuts Costs; Gives Needed Strength

Gold Bond Studless 2-inch Solid Partitions provide light-weight, non-bearing walls for all types of buildings. Constructed of gypsum plaster and the three basic metal parts shown at left, this Gold Bond Partition System offers five big advantages:

SPACE SAVING. The studless 2-inch solid partition occupies less than half the space of conventional wood-stud or masonry-constructed partitions. It saves one square foot of usable floor area for every four running feet of partition.

ECONOMICAL. The system eliminates cost of studs, saves labor expense, and permits faster construction. Since dead load is  $\frac{1}{3}$  to  $\frac{1}{2}$  that of masonry construction, less structural framing is necessary to support the weight of the finished building.

FIRE RESISTANT. The studless

partition system is built of metal lath and gypsum plaster, and will effectively protect against the passage of fire for one hour.

**SOUND INSULATING.** Because of its dense composition, the 2-inch studless partition resists the transmission of sound. It has a 38.2 decibel, sound-transmission loss rating.

**STRONG.** Impact tests using a 60-pound sand bag prove the studiess partition to have the same durability and stability as 2-inch solid partitions with channel studs.

Build better with Gold Bond

METAL LATH
and PLASTER

For complete information on Gold Bond Metal Lath and Plaster, write to:

NATIONAL GYPSUM COMPANY · BUFFALO 2, N.Y.

PLASTER on METAL LATH has no equal for Lasting QUALITY, Genuine ECONOMY



Floor clips ettached to floor



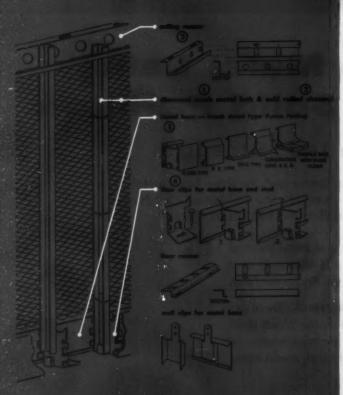
Channel stude slipped into flour and ceiling runners



Motel inth wire ties



Plaster applied to metal lath



The Goldsmith System is made up of these simple units: (1.) Diamond Mesh Expanded Lath, (2.) Cold Rolled Channels, held in position by (3.) Ceiling Runner, and at base by (4.) Floor Clips which also anchor the (5.) Metal Base. The Floor Clips are used for solid partitions with Metal Base on both sides, and also for furred walls where the base is on one side only. For unfurred masonry walls, Wall Clips are provided.

# GOLDSMITH Solid Plaster Partition and Metal Base System Reduces Costs 4 Ways

Goldsmith 2"-thick, solid-plaster partitions with channel study offer exceptional advantages in fire resistance, sound insulation, and sanitation, yet mean important savings to builder and owner:

1. Construction Savings. No other equally durable construction with comparable fire- and sound-resistance can be built as inexpensively as a solid partition.

2. Space Savings. Space economies are especially important in buildings which require a large percentage of the floor area to be devoted to partitions, such as hotels, hospitals, office buildings and housing developments. For buildings costing 12 dollars per square foot, every lineal foot of 2" solid partitions saves 3 dollars of floor space, when compared with wood study or masonry partitions 5" thick

3. Weight Savings. Metal lath solid partitions with sanded plaster weigh less than 18 pounds per square foot. Plastered 4" blocks

weigh 29 pounds. The difference is more than 100 pounds per lineal foot of a 10-foot high partition. Weight-saving is saving all down the line.

4. Maintenance Savings. Metal lath in the center of a solid vertical slab makes one of the most shockproof partitions in use. Metal lath provides a continuous, reinforcing, plaster base without joints that encourage plaster cracking. Smooth, hard plaster is inexpensively decorated and requires practically no maintenance.

For further information on The Goldsmith Solid Plaster Partition and Metal Base System, write to:

THE GOLDSMITH METAL LATH CO.

CINCINNATI 32, OHIO



## Load-bearing walls and partitions like this reduce costs and erection time, too

#### Parts of the System

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These walls or partitions consist of Penmetal LIGHTSTEEL structural studs, fastened at top and bottom to LIGHTSTEEL track, and braced with LIGHTSTEEL bridging. Metal lath is wired or clipped to the studs.

The studs are fabricated from structural grade steel by cold forming and are designed specifically for strength, light weight and low cost. The various sections are fastened together by welding, bolts or screws.

#### Ease of Fabrication and Erection

Because track sections are sized to fit over, and bridging sections inside of, the flanges of the studs, the sections are extremely easy to assemble. Being light in weight, complete wall panels can be handled without expensive, cumbersome erection equipment. The precisely engineered openings in the studs make it easy to tie the metal lath.

#### **Many Economies**

With this system, you get all the benefits of conventional steel sections, yet you do not pay for extra load-carrying capacity you do not need. In addition, time saved in fabrication and erection means money saved, too.

Still further economies can be effected by using the openings in the studs for the installation of wiring and piping.

#### **Highest Quality**

Now, you can have the highest quality construction, with plaster on metal lath, at low cost. There is no need to settle for less than the best.

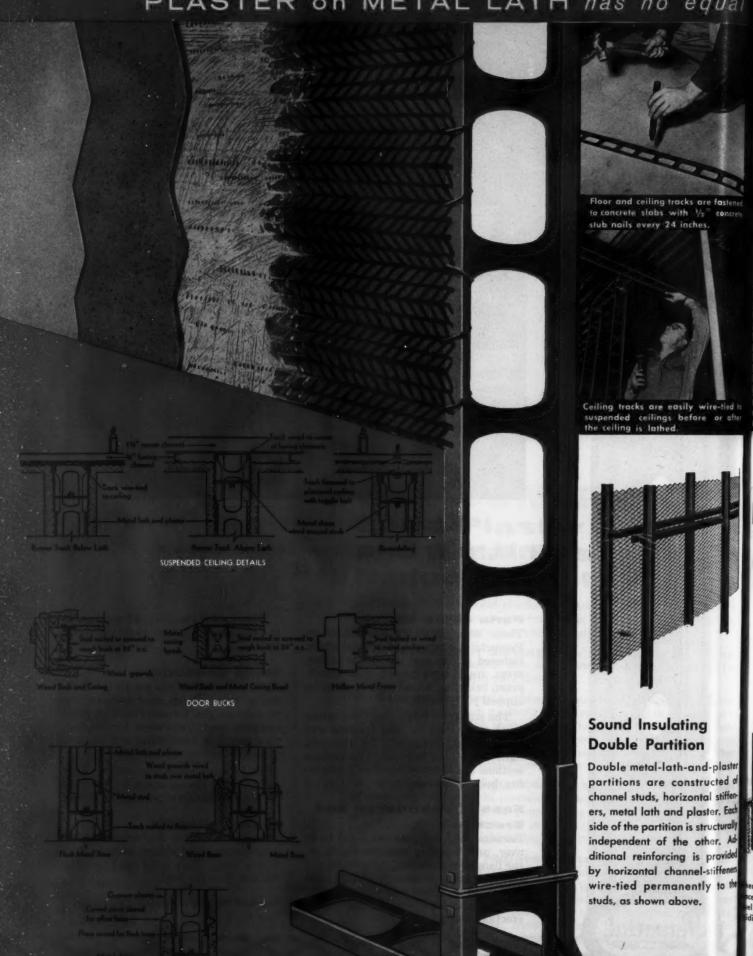
#### Send for Further Details

Ask for a copy of Catalog SS-6.

#### PENN METAL COMPANY INC.

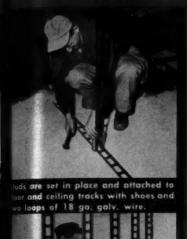
General Sales Office: 205 EAST 42ND STREET, NEW YORK 17, N. Y.

## PLASTER on METAL LATH has no equal for



FLOOR ATTACHMENTS

## al for Lasting QUALITY, Genuine ECONOMY





base for the plaster.



Typical installation: Truscon Steel Stud and Metal Lath

## TRUSCON STEEL HOLLOW PARTITION STUDS

offer cost economies and construction advantages in non-bearing hollow partitions

Experience has shown that Truscon Steel Hollow Stud Partitions rank among the foremost in their relationship to cost economies, space saving, dead-load reduction, sound insulation, fire protection, crack and shock resistance, sanitation, strength, versatility, and adaptability.

#### FIRE RESISTANCE

Strength and fire tests have conclusively demonstrated that Truscon Metal Stud Hollow Partitions, when protected on either side with Metal Lath and Plaster, have fire-resistive ratings up to  $2\frac{1}{2}$  hours as non-bearing partitions.

#### LOW MAINTENANCE EXPENSE

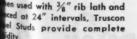
These partitions embody the crack-resistive construction required for low maintenance expense and safety over the years — they are not subject to cracking and dislodging, even around openings. Their ability to resist destruction and remain intact under favorable conditions is a safety factor of great importance.

#### LIGHT WEIGHT

Truscon Metal Lath Hollow Partitions weigh but 17 to  $18\frac{1}{2}$  pounds per square foot of partition surface, as compared with masonry types weighing 27 pounds and more for an equal area. This minimum weight requires minimum structural support — tremendous savings in structural costs result.

#### CONCEALMENT OF UTILITIES

The almost continuous hollow space afforded by Truscon Steel Hollow Studs for concealment of piping and ducts, and the availability of the studs for easy attachment of conduit, entirely eliminates the costly cutting and channeling necessary with other types of construction.



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For information on the complete line of Truscon Metal Lath and Accessories, write to

## TRUSCON STEEL DIVISION

REPUBLIC STEEL CORPORATION

1070 Albert Street . Youngstown 1, Ohio . Export Department: Chrysler Building, New York 17, N. Y.



PLASTER on METAL LATH has no equal for Lasting QUALITY, Genuine ECONOMY



TRUSCON makes more than 40 items for

# We repeat— Plaster On Metal Lath has no equal for lasting Quality, genuine Econom

Plaster on Metal Lath produces a solid, reinforced, monolithic finish. Walls and ceilings so constructed by their very nature are unmatched in interior beauty, impervious to the forces of destruction. It is practically impossible to obtain by any other means the attractive appearance and enduring strength of a good plaster finish on metal lath. Its lasting quality is *genuine economy* in the long run

Accepted by all building codes.

Write for instructive and descriptive literature to

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TRUSCON -



Sound systems have come of age. More and more companies realize the important benefits of equipping their new or existing buildings with sound installations. Today almost every type of construction is a potential user of sound distribution equipment. Where clear, "Ear Level" sound reproduction is important, specify Lowell speaker baffles, fire proof speaker enclosures, grilles and accessory equipment.

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Only Lowell, the leader and pioneer in the field of low level sound dispersion, offers a complete line including over 100 scientifically designed products. That is why architects and sound engineers throughout the world call for Lowell equipment for their finest jobs. These include airports, railroad stations, schools, hospitals plus industrial and commercial construction.

Lowell sound system engineers will be happy to consult with you on your application. Please write for the Lowell catalog and specifications today.

**Lowell Standard Height Ceiling Baffles** 

with "Floating Conical Action." Lowell BL Series baffles are designed for flush surface mounting to conceal the speaker without the need of cutting holes in ceiling. "Floating Conical Action" distributes controlled sound uniformly for 360°. Diffusing cone is supported through rubber grommets to prevent metallic resonance. Aluminum construction with natural satin finish. Colored lacquer finishes available.

Five models to accommodate 6" to 12" speakers.

**Lowell Recessed Protective Speaker Enclosures** 

Metal back cover speaker boxes ideal for any PA and intercom wall or ceiling installation. Rugged 18-gauge steel construction protects speakers from fire, rodents, dust, mortar. Rust preventive exterior finish. Eight models range from 4" to 9" deep. Larger models have heavily undercoated interior to prevent resonance. Complete with ¾" knockouts and all mounting hardware. Available with adjustable plaster flange. Round, square, rectangular perforated metal speaker grilles to fit.

The complete Lowell line includes ceiling baffles, wall baffles, speaker grilles, combination speaker baffles and circline fluorescent light fixtures, mounting accessories, speaker enclosures, intercom equipment.



Lowell MANUFACTURING CO.

3030 Laclede Station Road, St. Louis, Mo., U.S.A.

In Canada: Atlas Radio Corp., 560 King Street, West Toronto, Ontario





Box type (P) speaker enclosures



MODERN GAS VENTING!

**METALBESTOS** 

booklet

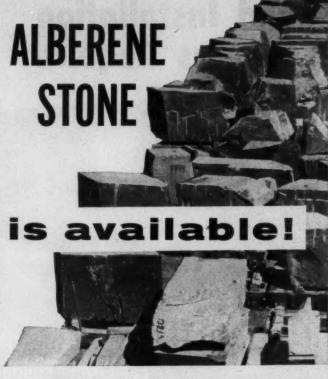
is opening the eyes of home-owners nationwide

In the interests of good gas heating and therefore good housing, Metalbestos is bringing housing-minded individuals the complete new story about gas-vented appliances. For the first time, the user will learn the real importance of a correct, up-to-date gas heating system — and will have the benefit of a free check-up by Metalbestos dealers.

In the belief that architects and builders will want this information, too, we are making copies of "What You Should Know About Gas Heating" available to you—without charge or obligation.

Simply write to:











A Number 2 Quarry at Schuyler, Virginia: Regular Grade Alberene Stone.

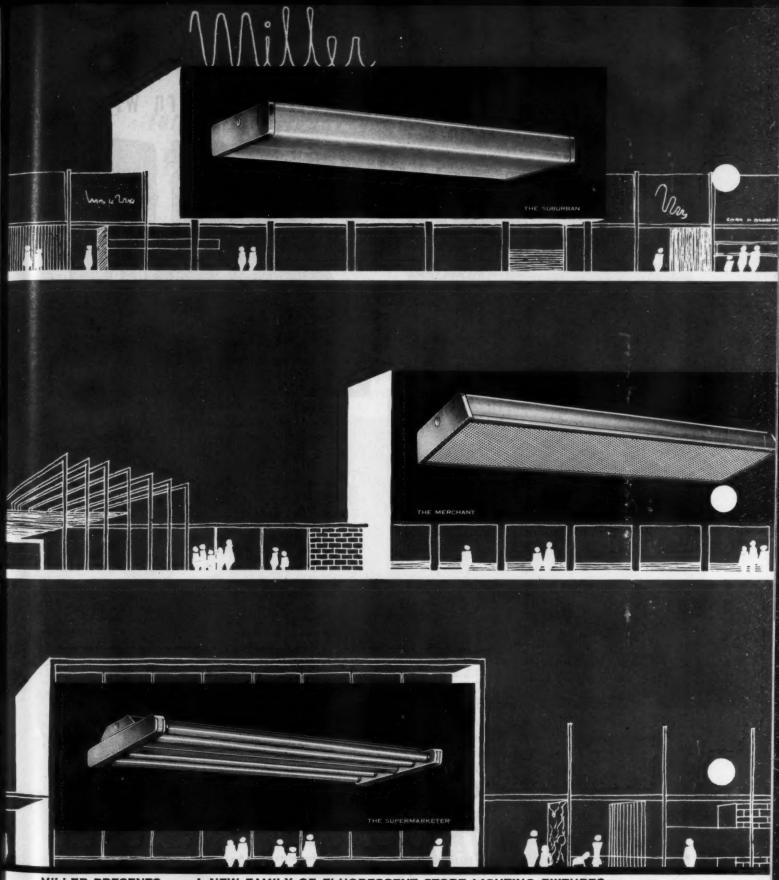
B Number 3 Quarry: also Regular Grade.

C Number 5 Quarry: Grade #25 Stone.

## We are currently shipping 500,000 square feet of laboratory soapstone a year

The supply in our vast Virginia deposits is practically inexhaustible. In addition to the three large quarries shown above, we are now developing two additional quarries: one for Regular Grade Alberene Stone, and one for Grade #25. These quarries are serviced by a modern, completely dieselized transportation system.

If your laboratory equipment contractor will do his engineering and prepare his shop drawings of stonework with reasonable promptness, we can schedule delivery of Alberene Stone to meet the progress of your project. It has been consistently done on large and small projects over the last 12 or more months. There is no need to settle for an inferior substitute. Insist on Alberene Stone — the natural material that has stood the test of time. It is highly corrosion-resistant, durable, attractive, and easy to handle in fabrication. For information and technical assistance, write Alberene Stone Corporation, 419 Fourth Avenue, New York 16, N. Y.



MILLER PRESENTS . . . A NEW FAMILY OF FLUORESCENT STORE LIGHTING FIXTURES

#### DESIGNED FOR MODERN SHOPPING

THESE NEW MILLER FIXTURES, INCORPORATING ONLY THREE TYPES, HAVE BEEN ARCHITECTURALLY STYLED AND ENGINEERED AS A GROUP TO MEET THE LIGHTING NEEDS OF MOST TYPES OF STORES... DESIGNED BY PHILLIP JOHNSON... TO BLEND WITH INTERIOR ARCHITECTURE AND DECOR, TO COMPLEMENT IMAGINATIVE STRUCTURAL COMPOSITION... AT THE SAME TIME DOING AN EFFICIENT LIGHTING JOB, ACCENTING SALIENT QUALITIES OF MERCHANDISE. THIS NEW, SUPERIOR CONCEPT IN STORE LIGHTING FOR MODERN SHOPPING IS ILLUSTRATED AND DESCRIBED IN A NEW EASY TO-USE FILE-FOLDER PROSPECTUS. WRITE FOR IT ON YOUR COMPANY LETTERHEAD.

THE MILLER COMPANY, MERIDEN, CONN. LEADERS IN LIGHTING SINCE 1844.

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School boards and taxpayers also like daylight walls. They mean lower electric bills, because lights are needed less often. Lower maintenance, because there's less wall area to paint and glass is easy to clean, Lower construction cost, because daylight walls are so economical.

In climates where heat saving is essential, you can glaze daylight walls with *Thermopane\** insulating glass. It cuts heat loss by 44% to 50%, compared to single glazing, so areas near windows stay comfortable. Rooms are quieter, too, because *Thermopane* muffles outdoor noise.

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NORTHLAND REGIONAL SHOPPING CENTER, Detroit, Michigan

Architect:

Victor Gruen Associates, Inc.

General Contractor: Bryant & Detwiler Co.

Acoustical Contractor:
Detroit Acoustical Contracting Co.





Random Cushiontone helps keep disturbing noise from traveling through the open stair well. With perforations spaced at random over the face of each Cushiontone tile, the finished ceiling effect is truly non-directional.

### Modern shopping center solves noise problem



The dignified décor of the Wright-Kay Jewelry Co., is further carried out by the naturally textured surface of the Travertone ceiling. Travertone's white paint finish and irregular fissures give it the distinctive appearance of travertine marble.



Perishable merchandise in the Fintex Clothing Company store needs the extra fire protection afforded by this Travertone ceiling. Completely incombustible, noiseabsorbing Travertone fully meets all fire-safety codes.

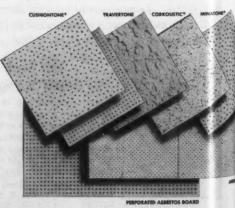
Completely geared to modern suburban living needs and trends, Detroit's Northland Regional Shopping Center solves many of the troublesome problems shoppers face today.

Space for 7500 cars eliminates the usual parking difficulties, while Northland's compact layout puts all of the 80-100 stores within easy walking distance. Artfully decorated malls and gardens provide relaxing surroundings for weary shoppers. Nor is there any of the annoying hubbub so often found in busy stores. In a large portion of the Center, sound-absorbing ceilings of Armstrong's acoustical materials have been installed to help keep noise levels down at all times.

Wherever economy was the deciding factor, Armstrong's Cushiontone, in the smart, new Full Random pattern, was used. A perforated wood fiber material, Cushiontone is surprisingly low in cost. To provide the quiet, beauty, and extra fire safety required in other areas, Arm-

strong's Travertone, a handsomely fissured noise-absorbing mineral wool tile, was installed.

Get full details on Travertone, Cushiontone, and Armstrong's entire line of sound-conditioning products from your Armstrong acoustical contractor. For the free booklet," "How to Install an Acoustical Material," write Armstrong Cork Company, 4210 Rock Street, Lancaster, Pennsylvania.



### ROBERTO BURLE-MARX: ART AND THE LANDSCAPE

Last June the renowned Brazilian landscape architect toured the U. S. A., lecturing on his theories of design and showing his work



We talked to Roberto Burle-Marx several times during his visit. His appearance and his likable manner stick in the memory; even more durably impressive were his simple affirmations of principles, expressed in English for which he apologized although he need not

have. His tenets apply to all the arts, a fact which eased his public and private discussions with architects, musicians, landscape architects, painters and sculptors — including a long evening with Alexander Calder which would have been fun to witness but which a witness could have spoiled. Below are excerpts from Burle-Marx's speech before the American Society of Landscape Architects' convention in Boston.

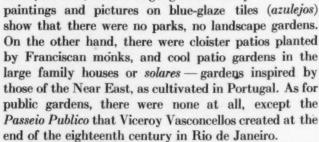
It seems to me that the principles on which I base the structure and arrangement of my gardens are in many points identical with those at the root of any other artistic expression, whether the idiom be music, painting, sculpture, or the written or spoken word. In all, the creative impulse comes first and is essential; but the *expression* of this impulse is consciously controlled and measured. A garden is a complex of esthetic and plastic intentions; the plant is, to a landscape artist, not only a plant — rare, unusual, ordinary or doomed to disappearance — but also a color, a shape, a volume, or an arabesque in itself. It is the paint for the two-dimensional picture I make of a garden on a drawing board in my atelier; it is the sculpture of arabesque in a garden.

It is not only as a botanist and a working gardener that I think of gardens. I was trained as a painter. Color contrast and harmony, structure and form, are important to me as a two-dimensional painter as well as in the three-dimensional or four-dimensional garden. A work of art cannot be, I think, the result of a haphazard solution. The development of the creative impulse is carried out by means of rhythms which will produce what the artist knows to be the desired result. In any

art, the artist learns how to stress a sound, a word, a color, a line, a shape, a volume, by means of contrast, comparison, repetition, tension and relaxation, slowing down speed for suspense, racing for climax. The great difference, of course, between the two-dimensional painter and the three-dimensional landscape designer, is that the plant — the raw material — is not static. It has its own cycle of bud, flower, seed, and withering; and again, a gust of wind, a cloud, a shower, or a storm alters its color and structure.

To give you an idea of how my work has been planned, of how I developed the style for a modern

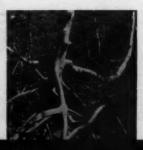
Brazilian garden, and of why it has taken its present form: true Brazilian gardens have a short history. Colonial Brazil had plantations and some flowers, but very few gardens. The flowers were brought from Europe by the Dutch, to Olinda and Recife, in the north; and a few, indigenous, were cultivated by the Portuguese, but very few. The vast estates or *latifundios*, the size of an English county, were successively planted with sugar cane, cotton, rubber (in the north) coffee, and orange groves. Early



As the cities spread, private gardens began to go the way of gardens all over the world; but in 1860, Glaziou, the Breton engineer, still found space for large private gardens in Larangeiras for nobles of Emperor Don Pedro II's court. After remodeling the *Passeio Publico* on the lines of the English landscape garden, but using Brazilian trees and plants or those in a similar climate, he went on to lay out the Emperor's park.

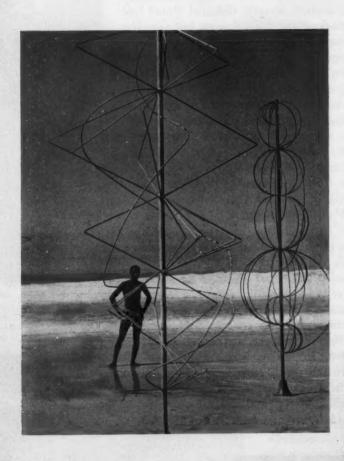


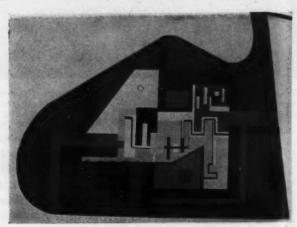




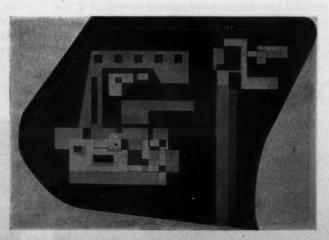
Some raw materials and their uses: Lotus, philodendron, mangrove roots, tile mosaic for walks and murals





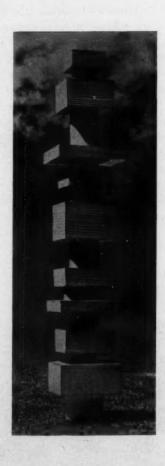


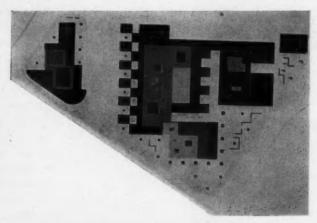
ROBERTO BURLE-MARX:
ART AND THE LANDSCAPE



Landscape materials natural and artificial are both pigments on his design board (Burle-Marx was trained as a painter) and three-dimensional, changing elements of the completed work. Color paintings in color on the facing page are designs, unfortunately not executed, for São Paulo's IV Centennial in Ibirapuera Park, a series of intimate gardens rather than monumental landscaping. This was to have been a chef d'oeuvre, with polychrome building materials played off against rich Brazilian plant colors and textures, asymmetrically yet geometrically, somewhat in the manner of the Alcazar in Spain. In one garden a walk like a switchback railroad was to have given exhibition visitors an unusual chance to see the composition from above. At right, plants contrasted with a mural panel, Olavo Fontoura garden, São Paulo; plan, garden at Belo Horizonte Airport. Black-and-white photos show Burle-Marx's sculptural techniques: in wire, in massive granite (designed for the IV Centennial), and in plant forms against a wall of the American Embassy at Rio de Janeiro









#### ROBERTO BURLE-MARX: ART AND THE LANDSCAPE (continued)

Unfortunately, some of the worst of his work as well as the best was copied, and invaded the private gardens; and since these are often small, the mannerism has become more important than the style. Passing fashions, usually foreign, have left their mark, from Victorian flowers, to International Municipal flower beds, to bungalow gardens with over-tall, sickly conifers. Something survived, however, as it always will, if the principles of composition are good at the outset, and if the landscape architect knows how to group his plant material in such a way that, even if the plants themselves assert their characteristics differently from the intention of the designer, their forms will still fit into the original composition. And when, in 1934, I started to lay out



gardens, it was still possible in a few Glaziou gardens to find traces of the master, of a man who knew plants and how they could be made into a landscape.

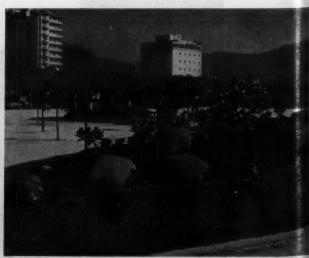
In 1934 I was practically alone in seeking to express the fact that the native plant does best in Brazilian gardens. And as space began to disappear, as the buildings which were the contractors' delight began to spring up selfishly, tightly packed around Copacabana Bay, what scope was there for a landscape gardener in Brazil? Not much, even in a country with such immense unplanted regions. The small private garden; decorative stone or concrete-rimmed beds or boxes — indoors, on a verandah, or at street level; the roof and pilotis garden; sometimes a square; once a parkway — and every ten years or so, a public park! Even so, I began to experiment.

When Le Corbusier came as consultant to the architects planning the Ministry of Education and Health, he spoke of the recovery of space at all costs so that man might regain his communion with nature; of the roof garden; of the space over an extended wing; of the hollows under the building at pilotis level. At that time, I was laying out my first roof garden; it was as formal, in its way, as the water garden inspired by Kew that a year earlier I had finished in Recife, the capital of Pernambuco. But this ribbon series of flower boxes was complemented by massed tropical plants contrasting with the larger mass of the Ministry building — a first step in the use of plants as volume in motion against the fixed volume of the architecture.

In the next two roof gardens, on the Reseguros Institute and on the Ministry itself, I experimented with free forms in an interplay of plant and building materials used as textures. I further developed the place devoted to the Brazilian plant, with a view to maintenance costs and because of its variety of color and shape. The Minister's garden at second-floor level, seen from above, is as defined as an abstract painting on my drawing board; yet when you actually walk in it, the raised foliage beds and the groups of Strelitzia reginae (bird-of-paradise-flower) are volumes in movement against the flowing (Continued on page 320)

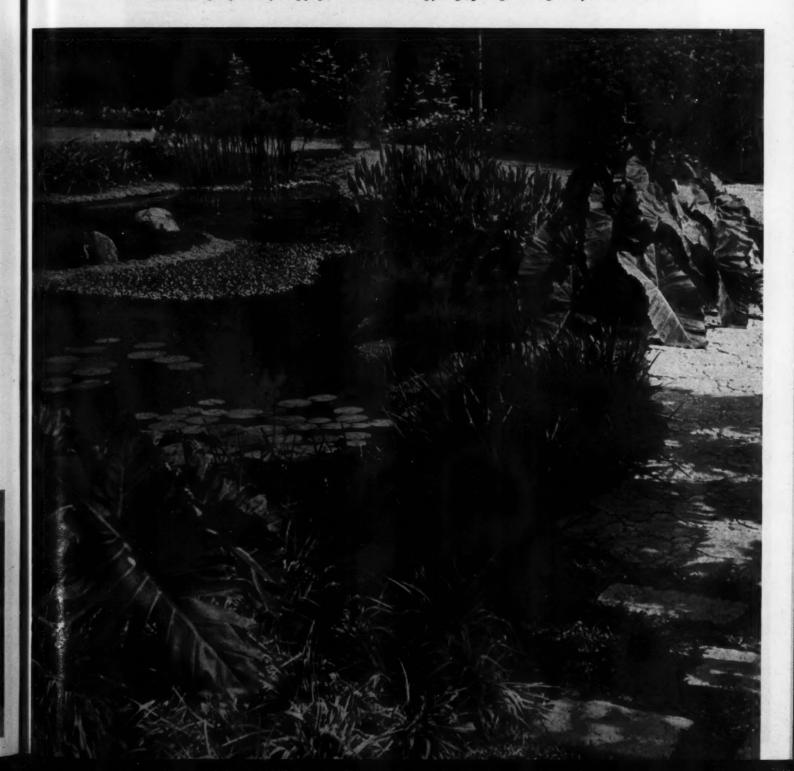
Top, plan, garden of Mrs. Odette Monteiro, Correias, Petropolis; Wladimir A. de Sousa, architect. Above, glazed tile mural, Instituto Oswaldo Cruz, Rio de Janeiro; Jorge Ferreira, architect. Below, two views of the Praia, Botafogo







Above, left to right, Olavo Fontoura, garden; roof garden, Roseguros Building (M.M.M. Roberto, architects); Monteiro landscape (plan on facing page). Below, contrasting foliage, paving, water; garden for Carlos Somlo





ROBERTO BURLE-MARX:
ART AND THE LANDSCAPE

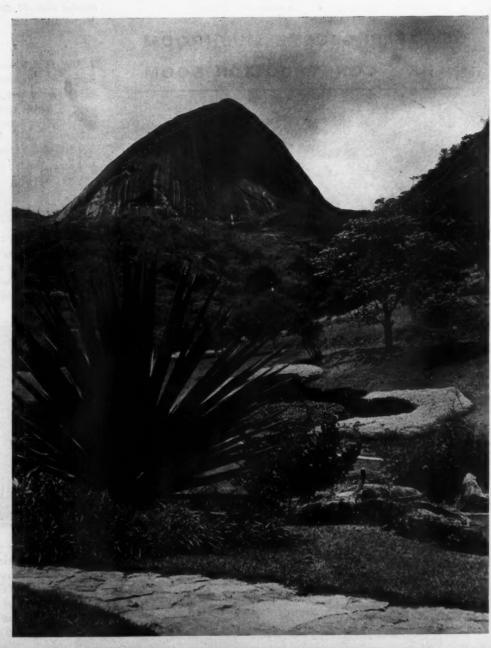








Another view of the Somlo garden (top, facing page) shows the importance of massed color. Below it are a garden for a house designed by Henrique Mindlin, which won an award at São Paulo's I Bienal; and (bottom) a garden for Almeida Braga in which planting two varieties of grass introduces pattern into the lawn itself. On this page are three kinds of landscaped terrain: a flat garden for the City Hall at Petropolis (destroyed because officials did not like it!); tree shadows emphasizing a slope at the Casino, Pampulha (Oscar Niemayer, Architect); and a closer view of the Monteiro garden, with a bold plant form repeating the distant mountain's shape. This garden won a prize at the II Bienal. Space does not permit showing Burle-Marx's easel paintings, his silkscreened textiles, his tapestry designs or (to return to landscape architecture) his nostalgic use, recalling Baroque churches, of pebble and shell mosaics in a Plaza in Bahia







# OFFICE PROJECTS MUSHROOM IN NEW CONSTRUCTION BOOM

1. Medical Center Towers, Houston—Golemon & Rolfe, architects; Skidmore, Owings & Merrill, consulting architects. Advisory boards in various specialties were consulted on layout of 175 suites for doctors. Estimated cost: \$4 million. Completion: 1955. Builder: Martin Nadelman

2. Mile High Center, Denver—I. M. Pei of Webb & Knapp Inc., architect; Kahn & Jacobs and G. Meredith Musick, associated architects. Construction is under way on second (foreground in model photo) of four units—airline ticket offices and restaurant; tower is already occupied. Estimated cost: \$15 million. Joint owners: Webb & Knapp Inc. and George A. Fuller Company. Builder: Fuller

3. National Headquarters Building for National Education Association, Washington, D. C.—Joseph H. Saunders, architect; Reisner & Urbahn, consulting architects. New eight-story unit, to be built in two stages, will connect with remodeled existing building; a separate service building will complete project. Estimated cost: \$5 million. Builder: Joseph F. Nebell







5, 6

4. "House of Seagram," 375 Park Avenue, New York City—Pereira & Luckman, architects for preliminary model of projected national headquarters building for Seagram-Distillers Corporation indicating four-story marble and bronze base with 30-story tower above. Estimated cost: over \$15 million. Completion was scheduled for 1957, Seagram's 100th anniversary



touis Checkman

5. No. 20 Broad Street, New York City—Kahn & Jacobs and Sidney Goldstone, architects. General Realty & Utilities Corporation and the New York Stock Exchange plan 27-story building adjoining the Exchange's present buildings at 18 Broad and 11 Wall. One-story-high steel trusses will permit removal of lower floors for three-story-high column-free extension of Exchange trading floor at some future date; initially Exchange will use, for public exhibition rooms and expansion of members' lounge, only 20,000 of 400,000 sq ft of rentable space. Builder: George A. Fuller Company

6. Davies Building, 460 Park Avenue, New York City—Emery Roth & Sons, architects. Tishman Realty & Construction Company's second metal wall building on Park Avenue got headlines for 10-hr enclosure of two main façades with prefabricated two-story-high aluminum wall and window panels—a job loudly decried in the masonry field as a "publicity stunt" and no true economy of time or money

7. United States Rubber Company Building East, Rockefeller Center, New York City—Harrison & Abramovitz, architects. The Center Theater, on Avenue of the Americas between 48th and 49th streets, is being demolished to make way for new 19-story structure adjoining U. S. Rubber Company Building. Limestone exterior and aluminum trim will harmonize with the 14 other Rockefeller Center buildings. Builder: George A. Fuller Company



8. Home Office Building for Boston Manufacturers Mutual Fire Insurance Company and Mutual Boiler & Machinery Insurance Company, Waltham, Mass.—Anderson and Beckwith, architects. Two-level building on 70-acre site will provide 88,000 sq ft for (initially) 325 employes at estimated cost of \$1.5 million. Facilities include employe "penthouse" cafeteria and recreation area. Completion: 1955. Builder: Turner Construction Company

9. American Bar Center, Chicago—Holabird & Root & Burgee, architects. American lawyers raised more than \$2 million, largely in one fund-raising drive, to build the American Bar Foundation's new headquarters—an administration building for the American Bar Association and a connecting research center and library. Builder: Turner Construction Company





Chicago Photographer

### HILTON PLUS STATLER: A BIG





THE LARGEST TRANSACTION in the history of the hotel industry has given Hilton Hotels Corporation, along with its controlling interest in Hotels Statler Company Inc., an even more commanding lead over its nearest competitor as the giant of the "quality" hotel field. According to Hilton sources, the lead over Sheraton is now something like 150 per cent figured in terms of investment, earnings, number of rooms, number of employes or almost any way you like except number of hotels. On that basis, the score was evened by Hilton acquisition of eight operating Statler hotels, which brought to 26 (the Sheraton figure) the number of hotels owned, leased or operated under management contracts by Hilton Hotels Corporation. One more Statler — the Hartford — was added last month: Houston's Shamrock enters the fold this month; still another Statler and six more Hiltons already scheduled to be opened within the next two years, and two more Hiltons just under contract (for London and Rome), would bring the total to 37.

The photographs on these pages show all of the post-World War II Hilton and Statler building projects — including seven of the nine hotels to come. The "client," as personified in Conrad Hilton, founder and president of Hilton Hotels Corporation, got his start helping his father run a five-room "hotel" in their large adobe house in San Antonio, New Mexico; he is by now, obviously, no stranger to balance sheets; but he expresses more than a business interest in the architecture of his hotels: "I love beautiful buildings," he says; "I've always loved beautiful buildings."





#### HOTEL CLIENT GETS BIGGER







- 1. Castellana Hilton, Madrid—opened July 1953; 338 rooms; cost \$3 million. Architect: Louis Feduchi
- 2. Caribe Hilton, San Juan—opened December 1949; 355 rooms; cost \$7.3 million. Architects: Toro, Ferrar & Torregrossa
- 3. Istanbul Hilton, Istanbul—opening early 1955; 330 rooms; cost \$5.5 million. Architects: Skidmore, Owings & Merrill and Sedad Eldem
- 4. The Beverly Hilton, Beverly Hills, Cal.—opening 1955; 450 rooms; cost \$14 million. Architect: Welton Becket & Associates
- 5. Nile Hilton, Cairo—opening 1956; 400 rooms; cost \$6 million. Architect: Welton Becket & Associates
- **6.** Los Angeles Statler, Los Angeles—opened October 1952; 1275 rooms; cost \$19 million. Architects: Holabird & Root & Burgee; associate, William B. Tabler
- 7. Hartford Statler, Hartford, Conn.—opened September 1954; 455 rooms; cost \$5.5 million. Architect: William B. Tabler
- 8. Dallas Statler, Dallas, Tex.—opening 1955; 1001 rooms; cost \$9.5 million. Architect: William B. Tabler
- 9. Continental Hilton, Mexico City—opening May 1955; 360 rooms; cost \$3 million. Architect: Fernando Parra
- 10. Acapulco Hilton, Acapulco, Mexico—opening May 1955; 250 rooms; cost \$3 million. Architect: Fernando Parra



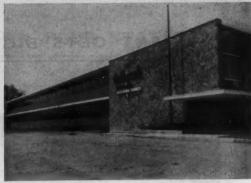




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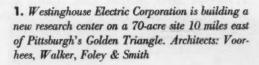
11. Havana Hilton, Havana, Cuba—opening early 1956; 650 rooms; cost \$13 million. Architects: Welton Becket & Associates and Arroyo y Menendez





2

### CLIENTS ARE INDUSTRY, EDUCATION—AND KIDS



2. Newest branch factory of Hallmark Cards, located in prosperous residential suburb of Kansas City, provides 52,000 sq ft of floor space, cost \$250,000. Architects: Welton Becket & Associates

3 and 4. Two new projects for Rutgers University, New Brunswick, N. J. 3. Dormitory and classroom project uses a river-bank site to develop residence hall and classroom sections as separate units within common buildings. Architects: Kelley & Gruzen. 4. York & Sawyer are architects for \$4 million library now under construction across the street from the projected dormitory site

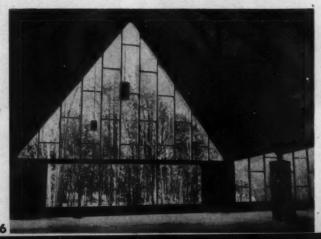
5 and 6. "Fresh Air" girls from low-income New York families were the real clients for Camp Bliss, newest Herald Tribune Fresh Air Fund camp, near East Fishkill, N. Y. Two views of the dining hall, focal point of the 40-acre lakeside campsite, are shown here. Other buildings at the camp, planned to meet requirements of a "group-centered" or decentralized program, include three "village halls" and four administration buildings. Campers—144 at a time—will live in tents erected on permanent bases. Estimated cost: \$250,000. Architect: Edward L. Barnes





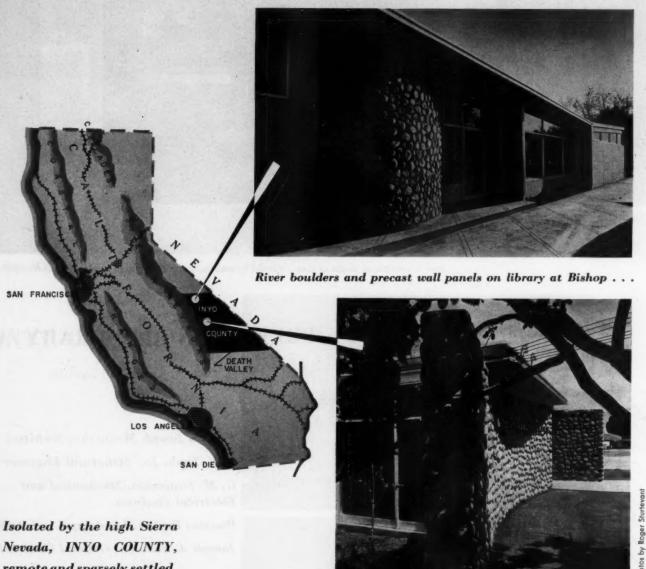
I. Hlack





nberg-New York Herald Tribune

### TWO NEW BUILDINGS FOR INYO COUNTY, CALIFORNIA



Isolated by the high Sierra Nevada, INYO COUNTY, remote and sparsely settled, retains much of the flavor of the West's early days and architecturally is still a frontier. Yet in aspiration and determination, it is more than a match for much larger, wealthier and more populous districts

. . are repeated on Health Center at Independence

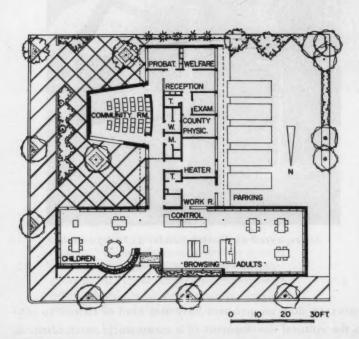
ONLY OCCASIONALLY does an architect have this kind of chance to contribute to the cultural development of a community; more often, as Percival Goodman observed at the Boston convention, he is "forced by those who hire him to build buildings for profits rather than for social or community profit." In these two new buildings for Inyo County, Calif., however, the opportunity was implicit in the commission and, after initial conferences, full confidence and freedom of action in interpreting the county's needs were given to the architect. The buildings which resulted are a combination of contemporary thinking in design and of indigenous tradition expressed in local materials. The facilities they provide are but initial profit to the communities in which they are situated; as cultural incentives this profit will continue to accrue.



Open, inviting character of building reflects informality of small Western town



### INYO COUNTY FREE BRANCH LIBRARY AND



Court off children's room is for outdoor reading, story hours



Francis Joseph McCarthy, Architect
A. V. Saph, Jr., Structural Engineer
G. M. Simonson, Mechanical and
Electrical Engineer
Douglas Bayliss, Landscape Architect
Joseph A. Schlapp, General Contractor

In the 40 years since Inyo County established its free library, Bishop had had no proper building for its branch. This new building was opened in 1953; since then circulation has increased 59 per cent in children's books, 30 per cent in adult books and magazines for Bishop, 17 per cent for the county. Part of the increase is due to the location of the building—within sight of the shopping district and the intersection of the town's two principal streets; two blocks from high and elementary schools, within walking distance of parking areas. An analytical survey by the architect of the town's land use pattern indicated that this location would serve, within a smaller radius, a larger number of potential readers than would the site originally selected. The architect's recom-



big window, fireplace, lounge chairs are essence of library's aim to avoid institutional look



Flexible displays for children's room

### COUNTY OFFICES

Bishop, California







Furniture throughout is scaled to size of users and type of use. One librarian oversees adult and children's rooms. All books are on open shelves. Display cases, racks, are interchangeable with shelves. Center and bottom right: semi-circular browsing area and children's reading room





Community room (above, top) seats 40, is in constant use for meetings. Gallery (above) gives indoor access to county offices (at left, below) from library

INYO COUNTY
FREE BRANCH LIBRARY
AND COUNTY OFFICES

Bishop, California

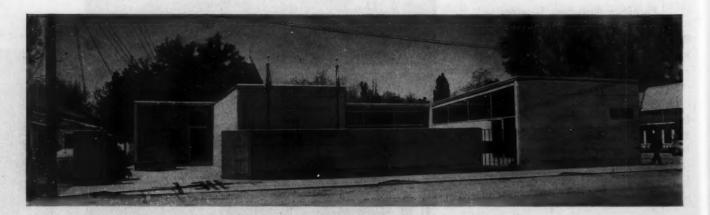
mendation was accepted without reservation by the board.

Undoubtedly, part of the increased circulation is due to better facilities, to use of display techniques to encourage book use and to storing of books on open shelves (there are no stacks). But, if comments by local patrons are indicative, the most important factor is the character of the building itself. One little boy, hugging a borrowed book, exclaimed to the librarian, "Oh, aren't books good"; a teen-ager explained her frequent visits to the building with the remark, "I love to come in here and look around. It makes me feel good"; and a former inveterate tavern haunter now frequents the library saying, "I like this place better than the tavern."

A subtle understanding of one of the less obvious social needs of small town life is the plan's recognition of the embarrassment which can come when everyone knows every one else's business. A gallery connects the library with the county office wing of the building and permits applicants for county help to visit county offices after an ostensible visit to the library.

Materials used in both library and health center (p. 161) reflect local custom and usage as much as possible. The precast lightweight concrete wall panels, hung from a light steel frame horizontally (instead of vertically as in typical local construction), are manufactured in Bishop, and the river boulders which are so strong a feature of the buildings' design, come from the nearby Buttermilk country.

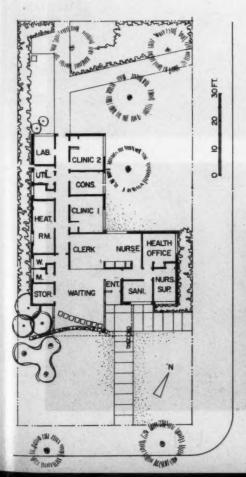
Cost, including site work, landscaping, fixtures (most of them architect-designed) and equipment was \$93,860, or \$19.60 per sq ft (\$17.10 per sq ft for the building alone).





### INYO COUNTY HEALTH CENTER, Independence, California

Francis Joseph McCarthy, Architect
A. V. Saph, Jr., Structural Engineer
G. M. Simonson, Mechanical and
Electrical Engineer
Douglas Bayliss, Landscape Architect
Joseph A. Schlapp, General
Contractor



Inyo county's population is small (11,600) considering its size (10,000 sq mi) but its distances are great, and one health officer must cover the whole county. Although Bishop is the county's only incorporated town, the actual center of population is nearer to Independence, 46 miles south, where the county's Health Center is located. The main north-south highway, U.S. 395, runs through Independence and since there are no railroads in the county, this is an important factor in location.

The Center provides administrative offices for the county's health service which has since its beginning been closely allied with the school health program. The service consequently includes nursing service for the schools as well as for communicable diseases; physician service for school health, immunization and consultation programs; clinics; sanitation service; and laboratory work not privately done.

The same materials were used here as in the library — the concrete wall panels and river boulders not only demonstrate a new way of handling familiar materials but endeared the projects, contemporary design and all, to the county's residents. Built under the Hill-Burton Act, the Health Center cost \$56,273, including Group I equipment. The county's part in this was pajd out of operating funds; it has no bonded indebtedness.

Like the library, this building is air conditioned — a necessity where the temperature ranges from -10 to 104 deg.

Local prototype for use of boulders



Concrete wall panels are made in Bishop



INYO COUNTY
HEALTH CENTER

Independence, California



Waiting room (above) can be used for health lectures, staff meetings, etc. Clerk's desk (left, below) oversees entrance, waiting room, offices. Center includes two clinics (below is one) and consultation room





Rear of building shows effective use of local concrete panels, laid horizontally. Poor soil bearing quality required light steel frame and roof decking to reduce dead load on foundations



### 1 A BUSY URBAN INTERSECTION

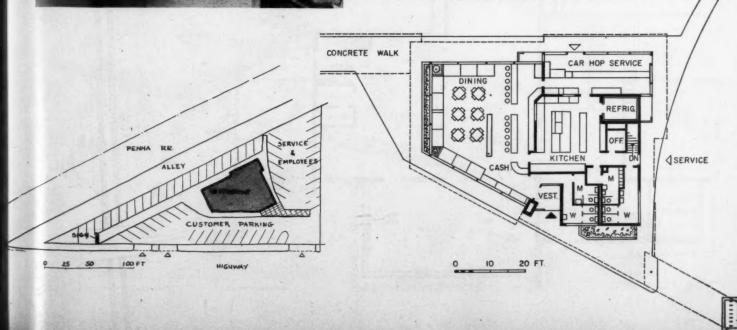
Parkmoor Drive-in, Dayton, Ohio Rollin L. Rosser, Architect & Engineer





This air-conditioned drive-in, located on one of Dayton's busiest thoroughfares, extends a beckoning finger to motorists by means of a covered, lighted walkway reaching out to a sign pylon near the road. Customers may park and be served by carhops after phoning in their orders via a Tel-e-tray system, or may stroll into the building and sit in a booth or at a counter.

The plot plan below shows how service deliveries and employee's cars have been carefully separated from customer parking. For the building itself, doors and sash are aluminum; floors are asphalt tile; ceiling is acoustic tile; lighting is a combination of incandescent and fluorescent.



# 2 SUPERHIGHWAY SITES

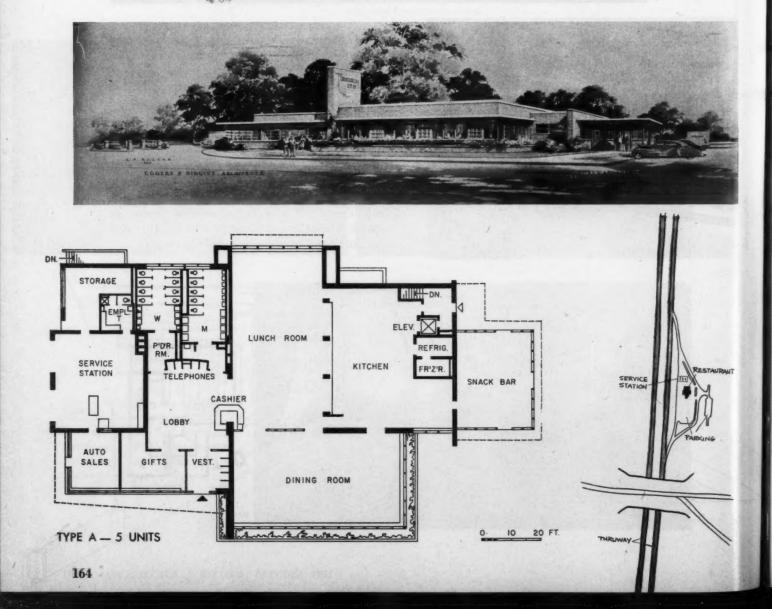
New York State Thruway Restaurants and Service Stations Eggers & Higgins, Consultants
Weiskopf & Pickworth, Structural Engineers
A. Carl Stelling, Site Planner
Jaros, Baum & Bolles, Mechanical Engineers
Smith & Silverman, Electrical Engineers
Howard Post, Food Service Consultant

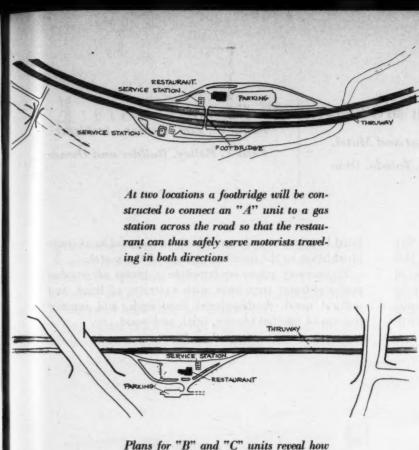
Seventeen and one-half million meals a year will be served on the 427 mile Thruway from Buffalo to New York — that is the forecast. To build the necessary 27 buildings of 4 types, 20 million was budgeted, thus creating the largest restaurant construction program on record. The first unit will open in December.

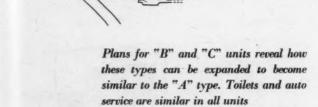
The buildings have been designed for 24-hour operation and their materials have been selected for minimum maintenance cost. The smaller "B" and "C" units are readily expansible into larger types, if needed.

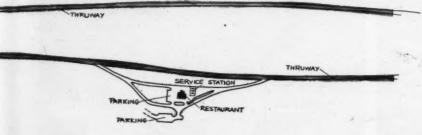
Resolving the needs of the three operating concessionaires into a scheme satisfactory to all required only four meetings and concerned such items as conveyor systems, size of utensils, type of equipment, etc. Each operator will be able to retain his commercial identity by controlling interior decoration.

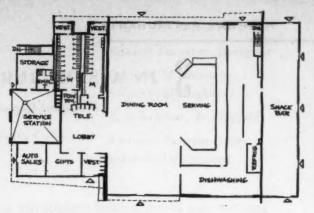
After general location was determined, site selection involved many considerations, enumeration of which resembles a designer's checklist: an attractive locale to provide a pleasant environment; a site affording the oncoming motorist a long-range view to avoid surprise in driving; a supply of 100 gallons of drinkable water a minute; electric power; proximity of access roads to keep trucks off the Thruway; avoidance of locations too near swamps, quarries, industrial plants, etc.; nearness to a flowing stream to receive the treated sewage; ground configuration to provide a floor about 4 ft above the road without excessive cut and fill.



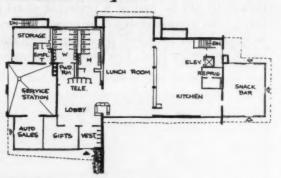




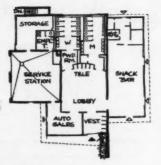




TYPE SUPER A - 2 UNITS



TYPE B - 11 UNITS



TYPE C \_ 7 UNITS



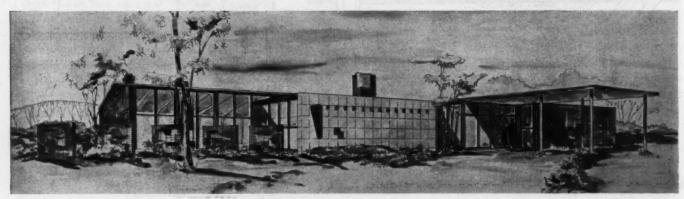
# 3 IN A SEMI-RURAL MOTEL

Proposed Restaurant and Motel, Toledo, Ohio Ralph W. Zimmerman, Architect
Paul T. Bailey, Builder and Owner

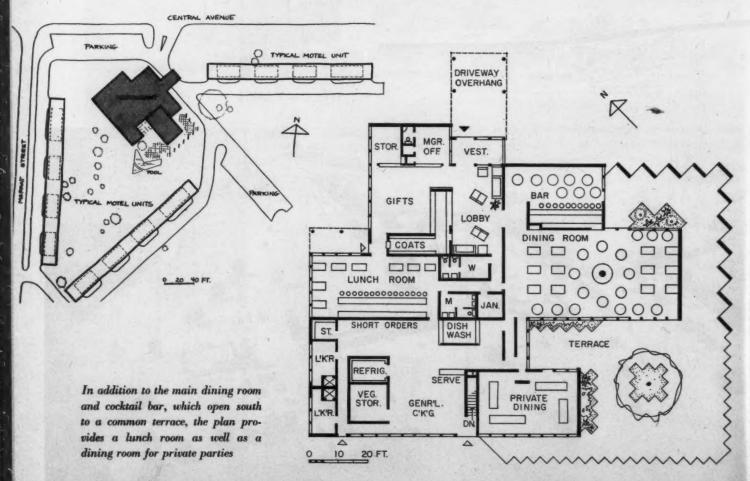
LOCATED on a 12-acre wooded roadside site about five miles west of Toledo on the highway to Chicago, this restaurant will be part of a projected motel group of better than average design. The project will eventually be extended to the south by adding more motel units and a swimming pool. The restaurant proper is calcu-

lated to attract a volume of both tourist and local trade in addition to the overnight guests of the motel.

Preliminary plans contemplate a group of wooden post-and-beam structures with exteriors of brick and natural wood, double-glazed fixed sash, and interior finishes of painted plaster, brick and wood.



Rendering by Robert Sullan



### 1 EYE-CATCHER FOR NARROW FRONTAGE

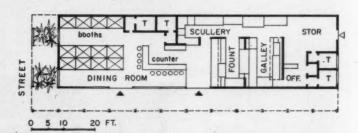
Oscar's Drive-in, San Diego, Calif. Russell Forester, Designer
John S. M. Daniels,
Structural Engineer
A. Schrieber, Jr., Builder
Western Pioneer Sales,
Kitchen Equipment

THE OWNER didn't care for the design of this drive-in when it was first presented to him, but changed his mind when business flourished. A second building of the same design — to replace an existing establishment — increased sales there by 40 per cent.

Gay colors catch the eye and help to offset the disadvantage of a rather narrow frontage. The regular steel frame is painted white, while the vertical pressed wood panels facing the street are bright red. Inside, the color combination includes aquamarine, pink and black. The ceiling is acoustical plaster, the floor is terrazzo, the partitions plaster, and the lighting is a combination of flush fluorescent troffers and incandescent downlights.

The disproportionately large plan area devoted to the kitchen and service areas is due to the large percentage of business that comes from parked cars.

For economical construction, the plan elements have been organized within the 4 ft. module of the structural steel frame. Carhops' access is at center of plan where fountain and scullery are located









# 5 FOR "QUICKIES" OR THE CARRIAGE TRADE

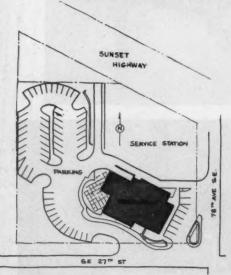
Harold's on Mercer Island, Seattle, Wash.

FEATURING innovations in dining not formerly available in Seattle and catering to the carriage and expense account trade, this restaurant also shrewdly eyes nearby Sunset Highway and provides a coffee shop for the faster moving tourist potential. The two-part plan extends out into the parking area, likewise dual. The highway trade has proved profitable enough that the

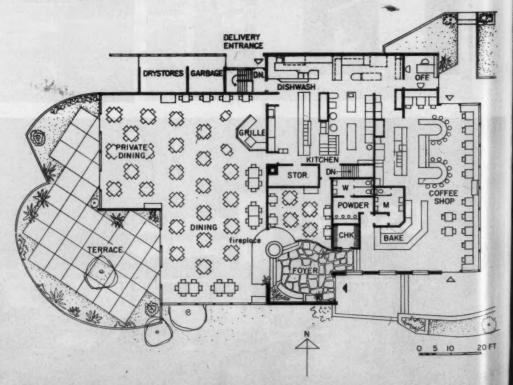
retail pastry counter shown in the plan has recently been converted into more coffee shop seating space.

Architecturally, the design follows the Northwest tradition, using materials and methods indigenous to the region. The regularly spaced beams are stained very dark with ceilings and walls of natural boards — cedar or fir. Certain interior walls are brick.





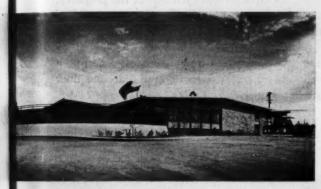
Plot plan above shows the twopart arrangement for customer parking, and also locates the building vis-à-vis the highway

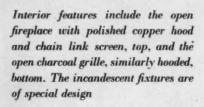


Decker & Christenson, Architects
C. W. May, Mechanical Engineer
B. A. Travis, Electrical Engineer
Cash Beardsley, Landscape
Architect
Fenton & May Co., Builders
John Byers, Equipment Consultant

sh.











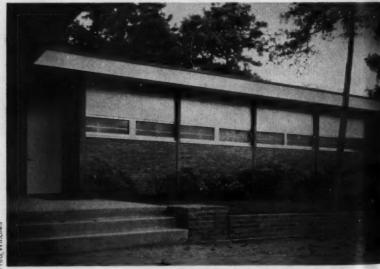
### HOUSES ON DIFFICULT SITES

### AN ALMOST-TRIANGULAR LOT, WIDE END TO STREET

House for Mr. and Mrs. M. G. Rosenthal, Houston, Texas Bolton and Barnstone, Architects

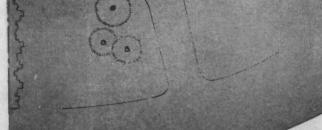
The shape and size of the lot were the governing factors in the planning of this Texas house: there was not overmuch room for a house of 4600 sq ft even without the complication of a large two-story structure on each side of the property. The solution was a plan straddling the lot and extending to the allowable building lines on front and sides. Since this put the house within 10 ft of each of its flanking neighbors, a new problem - privacy - was introduced. This one was solved by turning the house in on itself, with almost no windows on three sides - adding a daylighting problem (see opposite page). Deed restrictions making a second floor mandatory were met with servants' quarters over the carport.

> Privacy problem was solved by holding front and side window areas to minimum









STUDY

LIVING

CARPORT



Since rear of lot is well protected from neighbors, rooms on this side are wide open







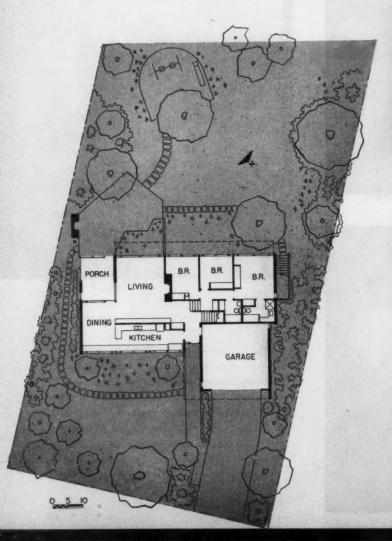
Daylighting of almost-windowless peripheral rooms was accomplished by use of skylights over interior garden (above) and children's playroom, and by light well in corner forming dining area and kitchen. Flat roof deck caused build-up of heat between joists, so air conditioning system was augmented by low-cost roof sprinkler, automatically thermostated

#### A SUBURBAN LOT WITH PRIVACY AT A PREMIUM

House for Mr. and Mrs. Arthur M. Gordon, Chicago, Ill. George Fred and William Keck, Architects

A slightly-sloping suburban lot some 30 miles from the center of Chicago was given the feeling of a country estate by the three-level plan of this compact house. Only the main entrance and the services are on the street side of the property; the house proper looks out on the large lawn and garden area at the rear. The three-level plan was devised to fit the site, and the roof-line was studied to combine spaciousness with intimacy. Master bedrooms are a few steps above the living room, but have the same roof plane; this provides an 8-ft ceiling in bedrooms and an 11-ft ceiling in the living room. Below the bedrooms is a large recreation room, one end of which can be closed off by a folding door to form a guest room; on that level there is also a bath and a utility room.

House turns its back to street, concentrates on garden area at rear. Slight slope of site permitted three-level plan with greatly increased privacy







Susseld-Falls









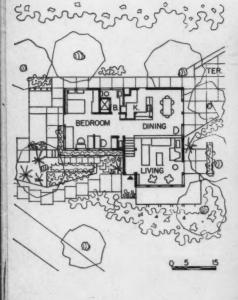
Most rooms in house, including bedrooms, face country-like lawn area at rear of property. View from recreation and guest rooms on lowest level is particularly non-suburban: outlook is over eye-level planting toward a receding lawn. Structural note: where brick is used, it is used on both interior and exterior with insulation in hollow core; such walls are laid 10 in. thick, with layers of brick separated and expressed as hollow wall at ends

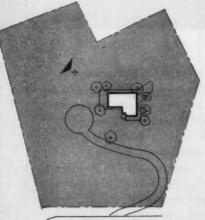
### A STEEP, ALMOST INACCESSIBLE WOODED SITE

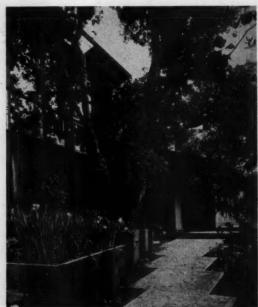
House for Mr. and Mrs. H. R. Petersen, Orinda, Calif. Kolbeck & Petersen, Architects

The densely wooded lot on which this house is located is so steep that construction materials had to be hauled up to the building site in a small pickup truck — larger trucks could not negotiate the unavoidably sharp curve in the driveway. The property is a north slope of an acre and a quarter, at the end of a dead-end street; deep ravines form its side boundries. Privacy was no problem with the house placed as it was, well up the slope, but a split-level plan was mandatory. This worked out well, however: since the house is small (1000 sq ft), all partitions, except around the bathroom, were omitted to create a feeling of spaciousness and the enforced change in level was used to separate the various areas.

Site is so heavily wooded that photographer could not get overall view of house. Trees — live oaks primarily — grow out of an









impenetrable mass of poison oak which owners let stay because of "beautiful fall coloring" which, they admit, their "allergic friends" do not appreciate. Main entrance (above left) is on lower level, connected by paved walk with turn-around at end of driveway. Dining area opens (above right) to small rear terrace a few steps below









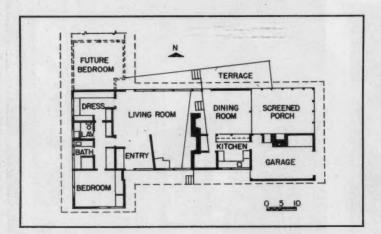
One leg of gable roof over kitchen-dining area slopes on down over living room to give feeling of snugness and to direct eyes toward valley view. Other gable leg continues up to form a shed over bathroom, bed alcove and hobby area, extending view from bed alcove and giving excellent light to hobby area. Skylight over breakfast bar brings daylight to center of house

#### A SEASIDE CLIFF WITH VIEW ON WRONG SIDE

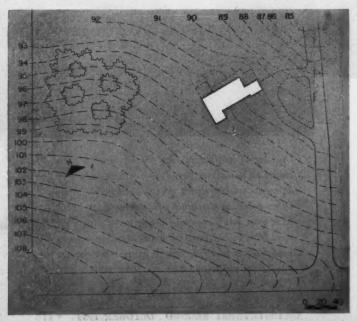
House for Mr. and Mrs. Louis H. D. McLeod, Rockport, Mass.

Carl Koch & Associates, Architects; Margaret M. Ross, Associate

A VIEW TO THE NORTH was the most important feature of this large site on the rocky shores of Cape Ann, creating an orientation problem which had to be faced. The owners originally planned the house for summer use only, but before working drawings had been made decided to make it their year-round home base, which added the problem of "winterizing"; they also demanded a huge living room facing the view. The use of insulating glass along the entire north side took care of the orientation difficulties; an alcove on the south side of the living room was introduced to humanize the scale in that room and to admit necessary sunlight. Plans call for the addition of a new master bedroom on the ocean side.







Site is typical of Cape Ann, sloping down from street to rocky ocean shore on north. View over bay is framed by government reserve on one side and house-filled small point on other. House is much lower than main road, but still is many feet above shoreline; when projected new master bedroom is added, it will share the ocean view





Living room alcove provides seating space around fireplace without detracting from main view over bay to the north. Fenced-in garden, typical of Cape Cod and other parts of New England, surrounds main entrance (below)





From road (opposite page), house seems to be on edge of beach; actually, however, a wide lawn and a fairly steep slope intervene. Shore side of house is mostly glass



### HOW DO STUDENTS BECOME ARCHITECTS?

This is the last of three reports on problems of architectural education today based on a survey of leading educators and practitioners

as summarized by

John Knox Shear

Head, Department of Architecture, College of Fine Arts Carnegie Institute of Technology

MANY OF THE STUDENTS in our schools of architecture today tend to copy dominant contemporary "styles." Most of their teachers believe that this tendency to imitate is natural and necessary. All of the teachers who responded to an ARCHITECTURAL RECORD questionnaire indicated strong convictions on the subject even though some of them were disturbed or confused about this magazine's use of the word "copy." Harold Bush Brown of Georgia Tech wrote: "I wish someone would think up substitutes for the one word 'copy' with its various shades of meaning and connotation. I am tired of seeing this word used to describe anything and everything from an accurate reproduction to something which has a faint odor of familiarity." Other replies expressed the same concern. The RECORD had used the word because Professor Shlomo Sha'ag used it several times in the report on his visit to American Architectural schools. That report had prompted the mailing of this and six other questions to educators and practitioners across the country. The question, number five, was stated in this way:

"Is a student tendency to 'copy' dominant contemporary 'styles' a serious problem and, if so, how do you cope with it?"

Fred Lasserre, who copes with problems at the University of British Columbia, seems untroubled by this one: "There is no real problem here in connection with students copying dominant contemporary styles. We have sufficient variety of opinions in members of the staff to encourage the student to make up his own mind. We do not feel that it is to be considered a problem if a student, during the course of his studies, produces buildings à la Wright, Mies, Corbu, etc. On the contrary we feel that this will be a valuable educational experience for him." Walter Gropius, whose work has inspired students and fellow architects for nearly a half century, says: "It is natural that a student often subconsciously tries to copy what he has seen either of former periods or of the work of his teacher. As long as the teacher determinedly points that out to the student, he will gradually try to eliminate what is not his own. At least it will keep him from unfounded vanity. The student's gradually developed attitude will depend very much on the approach of the teacher towards this problem."

The role of the teacher was stressed by many of the correspondents. Pietro Belluschi of M.I.T. concluded his answer with: "Young minds do not grow in a vacuum. The educator should be forever vigilant that the process of maturing be protected from destructive criticism as well as overbearing paternalism. He must be alert to guide the student and show some tolerance of the way in which he chooses to unfold his peculiar talents, even if they must feed for a while on what is fashionable." John Grand, of Florida, wrote: "It has always been one of the instructor's most difficult tasks to refrain from doing the student's thinking for him while at the same time guiding him through the shoals of superficial imitation." Earlier in his answer he had said: "The student's tendency to copy is not so much a serious problem as it is a natural phenomenon. Some years ago André Malraux pointed out that students acquire their interest and desire to study art through acquaintance with some example or examples of the art. Usually they will admire the work of an artist, and the tendency will be to want to emulate him. Malraux notes that an artist should not be surprised when his students ape him because if they were not properly enamoured with his work they would not seek him as a master in the first place. Students do not tend so much to ape their local master in our time, but thanks to modern communications media, they ape 'international masters'. This is something which can and will be outgrown with experience. Imitation, it must be remembered, is the first step in the learning process."

#### Imitation Natural, but Plagiarism to be Avoided

George Whittier, practicing in Oregon and a member of the A.I.A. Committee on Education, indicates that he feels the problem is not serious and that it is "normal for a student to copy until he finds himself." Linus Smith, of Nebraska, agrees: "The tendency to 'copy' dominant contemporary design is not bad. The student must have a vocabulary. Vocabulary in English begins very slowly; first with words, with phrases, with sen-

tences, with paragraphs, and then essays. A student must have enough of a vocabulary to begin to think." A few seemed to interpret the word "copy" - and quite understandably - as meaning outright plagiarism, and showed considerable concern. Frank Montana, of Notre Dame, said "the student tendency to copy dominant contemporary styles is a very serious problem and we try to cope with it in the understanding analysis of the architecture and forms produced by our contemporaries. We try to have the student reason his architecture and to study the development of the so-called contemporary 'clichés'." Roger Bailey, of Utah, described program writing methods and site selection principles which assure that "direct copies rarely would be possible. We have few offenders. Such occurrences are a matter of disgrace or ridicule among the students." Kansas' George Beal wrote that copying is always a problem and that he felt that it "arises at times out of too much required in a problem in too short a time from underdeveloped student abilities and immature methods."

#### Students Always Copy — but Whom?

On the whole there was general agreement and what might be taken for some divergence in opinion may probably be laid to individual interpretations of the meaning of the word. The answer of John Burchard expresses the consensus concisely. He is now Dean of Humanities and Social Studies at M.I.T. and his understanding of students, architecture and architects urges the careful consideration of his words by both student and practitioner. "As Malraux remarked, students always copy and the whole question really is whether they are copying a master or a pedant. Malraux suggested that it was the tragedy of every great artist that he had finally to kill his master and the great young man will ultimately kill his present masters. The mediocre ones will not and will keep on copying roughly from the period in which they were trained although they will try as fashions change to do something in the new fashion and will succeed very badly since they will not understand it."

#### How Much "Ideological Confusion" Is There?

The RECORD's sixth question asked: "Are you conscious of much 'ideological confusion' among students and, if so, how can educators help to reduce it?"

Once again Dean Burchard had a concise answer: "No." Many shared this view. Some thought there is confusion but no more among students than elsewhere; others that there is confusion and that it is by and large a good thing — or can be made a good thing. A few, including some teachers, felt that if there were no confusion at the moment it was simply a temporary oversight on the part of our faculties who could be counted on to stir up some soon enough. Definition of terms again was a matter of concern to many and Olindo Grossi, Pratt, made a meaningful observation in "awareness of differences is not necessarily indicative of 'ideological confusion'." Sidney Little, Oregon,

wrote: "I would say that the student consciousness is toward ideological variety rather than ideological confusion. We look on that as a healthy situation."

Pietro Belluschi expressed the view that: "These are difficult times of transition, yet I am not aware of any unusual ideological confusion but ideological confusion would be better than dogmatic certainty." Lawrence Anderson, also of M.I.T., also discussed the nature of our time of transition and said: "During this transition a certain dogmatism on the part of the teacher can be helpful, but it is a dangerous diet in excess. The student should be made to eat doubt as soon as he can digest it." Theodore Pritchard, Idaho, asked for the RECORD's definition of "ideological" and added: "In a world of 'ideas' there is always confusion. I don't think I would want to reduce it too much." Richard Bennett, practicing in Chicago and formerly a teacher of many years' experience, wrote that he would "rather see a little ideological confusion among students than blind obeisance or a serene indoctrination." This reaction was shared by Ronald Whiteley of Kansas State: "I am convinced that a certain amount of 'ideological confusion' among students is a healthy state of affairs. Would it not be better to have the student search for the kernels of architectural philosophy in the chaff of confused ideology than to create an educational block by a philosophical dogmatism? A disciple can never lead - he always follows." John Grand lined up with this group, saying: "I hardly think it desirable to reduce the fermenting of ideas (which often intoxicates students and causes their elders pain) which we call 'ideological confusion', for in a large measure it is the very essence of education and should be stimulated and guided."

#### Confused Teacher, Confused Student

Walter Gropius wrote: "If the teacher himself is confused, so will his student be. If he has a clear ideological approach of his own, he will be able to give a student a definite conviction which is the prime aim of a good architectural education." Milton Osborne, Penn State, went a little further with this: "I wonder if the ideological confusion is not among the staff rather than the students. I doubt if a straightforward approach to the solution of architectural problems on the part of a design critic will bring anything but straight thinking. Most students seem to know where they want to go, if they are not led astray." And George Whittier

#### THE QUESTIONNAIRE

#### Article Three

- 5. Is a student tendency to "copy" dominant contemporary "styles" a serious problem and, if so, how do you cope with it?
- Are you conscious of much "ideological confusion" among students and, if so, how can educators help to reduce it?
- 7. What suggestions would you make toward (a) easing the transition from education to practice and (b) strengthening the relationship between student and profession?

suspects who can accomplish this last kind of shepherding: "Some educators," he wrote, "create 'ideological confusion' thinking that they are 'stimulating investigation'." Linus Smith felt that educators can help reduce this kind of confusion by "being calm," by being reasonable, and above all not trying to dramatize architecture to such an extent that there must be a crescendo each day and a climax every minute. Much architecture is the world's work. You can neither be heroic nor exquisite all the time. I believe that if educators were more reasonable, students might be more reasonable."

Robert Snyder, of Cranbrook, is much taxed by to-day's talk and rips into the problem with these terse comments: "More and more time and energy are being dissipated in verbiage at the expense of architecture. Noise has supplanted achievement. Being bred today is a whole generation of critics rather than architects. Glib phrases and bad drawings clutter the drafting rooms and the profession grinds to a halt under this negativism. Historians recording our achievements for humanity will listen to our buildings — not our verbal Utopias." On reading these phrases an anonymous architect, who wished, unaccountably, to remain so, suggested that the schools institute immediately the practice of regularly washing out the mouths of the talkers with soap — octagon soap.

#### From Education to Practice

Which brings this symposium, somehow, to the relation of the student to practice and the practitioner. The Record's last question was: "What suggestions would you make toward (a) easing the transition from education to practice and (b) strengthening the relationship between student and profession?"

Several replies indicated that if (b) were solved (a) would cease to be a problem. Many others felt that the solution of (a) was prerequisite to that of (b). Accordingly the answers to this question often fused its two aspects. Attitudes and specific suggestions were divided into two rather distinct groups: those who felt that the schools—in their methods and objectives and in their students' attitudes—held the keys to the solution; and those who felt that the professional practitioners—individually and through the A.I.A.—owned both the responsibility and the means of achieving the happy relationship desired by all.

#### Practical Experience is Necessary

Donald Mochon, Rensselaer, expressed confidence in the balanced curriculum as an effective means: "The transition from education to practice can be eased if we train well-rounded men for the profession. Overemphasis on certain aspects of architecture, whether design, or structures, or history, or construction, or freehand drawing, does not produce the kind of man who will easily become a 'whole' architect." Walter Gropius made this indictment of the curricula today: "The present educational system suffers from being too platonic and bookish. From the start on, it should

be adapted much more to the practice of architecture. The greatest necessity is to make the workshop and the building site (field work) a definite part of the curriculum. That will give the student the necessary familiarity with the building process itself." A number of replies pointed up the value of realistic design problems, particularly in the later years. Fred Lasserre urged real sites and 'office methods' as nearly as possible in the senior drafting rooms. Lawrence Anderson spoke for: "Orientation of student work toward real situations in the life of the community." He also pointed up what can almost be taken as an index of the suggestions of others: "Formalization of the architect-intraining status by the A.I.A." "Encouragement of the student to decelerate his degree and to alternate school experience with work experience." In this regard he notes that it "would be a good thing if military experience came earlier." Finally he wants: "Encouragement for staff members to continue consulting work." Others voiced this same concern that teachers practice. Fred Lasserre was one of many who turned it the other way around and asked that practitioners teach. He wanted also a full year of practical experience for all students before graduation. Several mentioned two summers as an administratively practical experience requirement for the degree. The alternate work and study sequence which has been in effect for many student generations at Cincinnati was described by Ernest Pickering. A few expressed doubt about the continuity problems raised in this kind of program. Frank Montana proposed simultaneous work and study in the later years of schooling: "This would mean, however, that the course of study must be lengthened from five to six years in order to make up the necessary time. I feel that a continual cooperation between work and education in the last two years is better for both student and employer than intermittent employment and education."

#### **Practicing Architects Could Help**

Roger Bailey wrote: "We would like each office to sponsor one of our third year students so that the student might have a definite connection with a practicing firm." In this and in Sidney Little's answer the other side begins to get its inning. Dean Little said: "Probably no one thing would help the profession as a whole more than for each school to be able to guarantee to each graduate at least one year in an office after graduation. This would not be an impossible task since of the six students per registered architect certainly no more than one would graduate, so that the ratio to be accommodated is one to one. The responsibility of each office would be to take one student each year per registered architect in the office." Henry Kamphoefner, of North Carolina State College, warned: "A more sincere interest by the profession in the schools would help. The profession must not consider the schools as institutions for the training of draftsmen for them to use and exploit. The schools have the obligation of preparing the student

(Continued on page 316)

## TEN LITTLE HOSPITALS, AND WHAT THEIR ARCHITECTS LEARNED

By Richard J. Adams Sherlock, Smith and Adams, Architects and Engineers

# HOSPITALS

ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 215

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MODERAL NUMBER OF THREE CHARGES
HOSPITAL BUILDING TYPES STUDIES
IN ARCHITECTURAL RECORD
Hospitals July 1937
Health Centers Sept. 1940
HospitalsAug. 1941
Hospitals in WartimeAug. 1942
iospitals
The General HospitalAug. 1944
Coordinated Hospital Service Plan. Aug. 1945
Bements of
the General Hospital June, July, Aug. 1946
HospitalsJune 1947
Type Plans for
the Connect Manufact Inc. 1049
Hospitals May 1949
Hospitals
Mental HaspitalsOct. 1950
Tuberculosis HospitalsApr. 1951 Hospitals and Health CentersOct. 1951
Revised Elements
Revised Elements
of the General HospitalApr. 1952
Hill-Burton HospitalsOct. 1952
Mospital Plansing Studies Feb. 1953 Mental Hospitals Nov. 1953
Mental Hospitals Nov. 1953
Hospitals and Health Facilities Mar. 1954
BOOKS
"Psychiatric Sections in General Haspitals,"
by Paul Hawn, M.D.
"Design and Construction of General Hospi-
tals," by U. S. Public Health Service, published jointly by ARCHITECTURAL RECORD and
The Medern Hospital
The Modern Hospital

THESE SMALL COMMUNITY HOSPITALS, basically similar  $oldsymbol{1}$  in program requirements, are shown here to illustrate the evolution in planning which can and should take place in an architectural office. We trust they show how the stand-still, stereotyped plan - standardization by specialization — may be avoided in a process of constant development toward an ideal solution of the design problem. The process is cumulative; each job gains additional desirable features, while retaining those of the preceding one. We have selected these ten small hospitals, designed over a period of several years, to demonstrate this gradually changing design.

The two architectural principals of the firm of Sherlock, Smith & Adams both had experience in hospital design prior to the war and the subsequent organization of the firm. However, the research and progress made by Marshall Shaffer's Hospital Facilities Division of the U.S. Public Health Service immediately following the war started a new trend of thought in hospital design, and we realized that we had to start more or less from the beginning. Research and study are still going forward. Better ways of doing the same thing are constantly being investigated. Continuous investigation has resulted in gradual improvement of many features, the abandonment of some principles, and the

restatement of others.

We believe that our real progress began when we realized that the cost of operation of a hospital can equal the capital investment in from three to five years. From this point on we began to think of staffing, since a large portion of the operating budget of a hospital is salaries. An extra nurses' station, for instance, if not absolutely necessary due to patient load, can add a tremendous burden to the hospital's financing, and over a period of the life of a building can actually equal the original capital investment for the facility. Unless the architect considers this important factor, he may find that he has planned the hospital into bankruptcy before it has admitted its first patient.

It is our opinion that a hospital is the most complicated structure which our profession is called upon to design. In an industrial plant initial errors in organization, production flow, etc., can be corrected by simply relocating machinery, but the elements of a hospital are where we place them, and must be coped with during the entire life of the building.

A small hospital, to function properly, requires the same basic technical personnel as required in large hospitals. However, there is never enough work in say a 20- to 50-bed hospital to keep a technician in each of the various departments busy. So we studied small hospitals with the idea of grouping these facilities and placing them under the charge of a combination technician; for instance, by retaining the services of a consultant radiologist and pathologist from a larger hospital in the area, we are able to combine an X-ray technician who also serves as laboratory technician, handles the small physical medicine department, and in many cases, has charge of the hospital drug room. The operating room nurse also has charge of the delivery suite, and central sterile supply. She is retained on an 8-hour-per-day basis, and subject to call in case of emergency. The positions of dietitian, housekeeper and supply officer are also combined to reduce the staff, and provide enough work to keep one person occupied. Also, in the business office a combination bookkeeper, stenographer, information clerk and medical records clerk is sufficient for the smaller hospitals. However, it may be necessary to bring in a part-time typist to keep medical records up to date. The orderly serves as janitor and yard-man. The maids serve both in the kitchen and on the patient corridors, simply changing their uniforms.

We have been fortunate in most of our small hospitals to be near some facility which retains the services of a full-time operating engineer, and have arranged for hospital boards to retain this person on a consultant basis, to spend a couple of hours per day supervising the janitor, and making the necessary adjustments and tests of the equipment. Although we have not yet been able to accomplish it, we believe that one high caliber administrator could take care of the administration of from three to four small hospitals, if within a 40- to 50-mile radius.

In many of these hospitals the administrator was not employed until the last two to three months of construction, and it was necessary for us to prepare equipment lists, and set up the various techniques to be used in the operation of the facility. When the administrator arrived, he was given a complete memorandum on how the hospital was to function, as well as a recommended staffing list. In view of this responsibility which we are forced to accept, we continue to study the problem, with advice and suggestions of the administrators who are operating the hospitals we have planned. A member of our staff calls on these hospitals at least once each six months, reviews the plant with the administrator, in regard to functional planning, and examines the facility to determine how various materials are holding up from a maintenance standpoint. These continual contacts have been most beneficial, and the information gained has influenced our latest designs.

Orientation and siting play a most important part in initial stages of planning. No patient room should be given a western exposure, and on southern exposures overhangs or other devices should be utilized to control direct sunlight. Siting of the building should be studied with the earliest schematics, so that patient rooms open on to quiet lawns instead of parking areas, noisy service courts or ambulance entrances.

The already intricate circulation pattern of small hospitals is further complicated in these ten buildings by the requirement for segregation. This particular problem has been studied progressively in each successive hospital, and is handled in a much more successful manner in Geneva County Hospital, the most recent of these facilities.

As we go through the individual hospitals in the chronological order in which they were designed, we will endeavor to point out the various changes in our thinking, and the reasons for these changes.

Kendrick Memorial Hospital in Luverne, Alabama, was designed in 1947, by the then new firm of Sherlock, Smith & Adams. This rural community of 3500 people awoke one morning to find the only doctor in the county had passed away. After several weeks of trying to persuade several young physicians to open a practice there, they realized that it was impossible to secure doctors unless some facility was provided for them to work in. There was no time to wait their turn on the priority list for Hill-Burton funds, so a group of citizens met and pledged \$75,000 for the construction of a small hospital. A young internist and a surgeon were contacted, and a lease purchase agreement was made.

The U. S. Public Health Service elements of a general hospital were followed as closely as practical with the limited budget available. Offices for two doctors and 13 beds were provided, with adjunct facilities set up so as to serve both the doctors' offices and the hospital. Here the double corridor, with a central core, lighted and ventilated by a clerestory, first appeared in our planning. The facility has been in operation for seven years, and has shown a profit.

Another hospital, not illustrated, is an example of how planning can be handicapped by superimposed requirements. A functional plan with a contemporary exterior was submitted to the hospital board, but they demanded a traditional exterior. The functional plan therefore had to be warped to fit a prescribed colonial skin, causing confusion within the circulation patterns of the structure. It was necessary to provide a separate maternity department of seven beds, with a separate nursing staff.

It was here that we learned never to submit a plan and a rendering at the same time, but rather to so thoroughly sell the board and staff on the circulation patterns and functional plan arrangement, that they would not sacrifice these to acquire any preconceived exterior appearance.

We were not too pleased with the planning of the two previous facilities, and were convinced that we should further re-evaluate the importance of planning for efficient and economical operation.

In the Perry County Hospital, a 20-bed facility at Marion, Alabama, we accomplished probably our greatest change in thinking, and became more acutely conscious of circulation patterns, control and consideration of staffing in the early stages of planning.

It was on this project that we developed the 3-ft 8-in. module, which we are still using to lay out small hospital plans. Schematic plans were drawn, staffed and discarded. Ways and means of shifting areas and combining facilities to eliminate all excessive personnel were devised, until we were sure the minium staff provided could properly operate the facility.

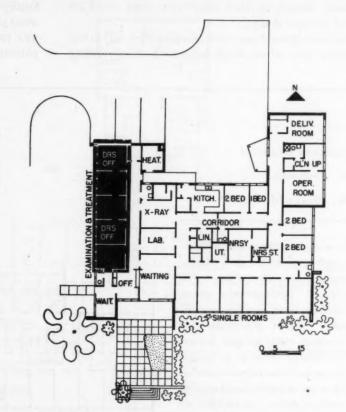
Since the nurses' station in a small hospital is the center of activity, it was placed at the heart of the plan. By moving 6 ft in either direction, the nurses could control all corridors, and by using a sliding glass panel into the waiting area, would have complete control of the hospital at all hours.

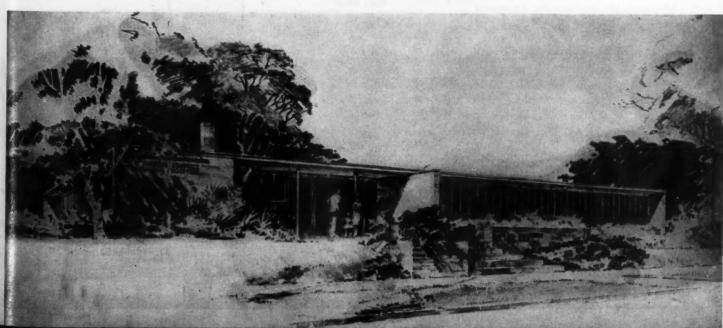
Although the double corridor system had been first used in Kendrick Memorial, here in Perry County it again appears, to facilitate segregation and shorten the nurses' travel from patient rooms to work areas which are located in the central core. The rooms in the core extend above the roof in a clerestory, providing natural light and ventilation. Windows in the clerestory are operated by a motorized gang operator, with push buttons at the nurses' station. It was also in this hospital that the "Ventilightolator" was developed, which is a combination ventilator, skylight and lighting fixture, ventilating and lighting inside rooms.

Here at Perry County Hospital an economical arrangement of operating and delivery suites, X-ray, laboratory, dietitian, housekeeper and supply officer

## Kendrick Memorial Hospital Luverne, Alabama 13 Beds, Designed 1947

The first of the series of ten by these architects, this hospital was designed to attract new doctors to the community, hence the doctors' offices and examination rooms. It has the double corridor, which appears in most of these hospitals, to help in circulation patterns, also in the problem of segregation. X-ray and laboratory facilities are placed to serve both the hospital and the doctors' offices. Certain features were improved in later hospitals





were devised, and although we have studied and restudied these units, they appear more or less intact in the subsequent plants.

Isolation rooms were combined with N.P., and also served as private rooms. A sliding door between the room and toilet and closet not only provided a safety factor, but made it possible to use these areas as deluxe private rooms.

In this hospital we used every device possible to save the nurse extra work and extra steps, so that she might in turn be able to spend more time with the patient, and hence provide better patient care. Audiovisual nurses' call system, including a push button and speaker at front door and ambulance entrance were provided. An electric strike was installed at the ambulance entrance to allow this door to be unlocked from the nurses' station, so that emergency cases could be admitted without delay.

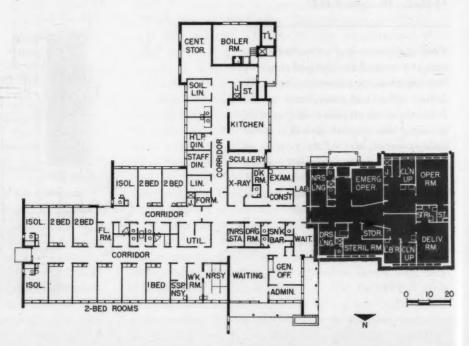
A small refreshment area was also provided, adjoining the waiting area, where drink boxes and other vending machines are located. This space provides extra revenue for the hospital.

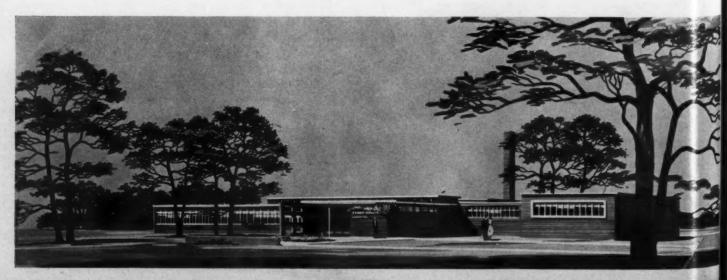
All in all, the Perry County Hospital plan was most successful, and has indeed proved to work remarkably well. The hospital has attained an occupancy of 80 to 85 per cent, and has operated at a profit since its opening. At the present time a 10-bed addition is being constructed.

The Bullock County Hospital at Union Springs, Alabama, a 30-bed facility, repeats many of the design elements mentioned above, and although they appear in a somewhat rearranged pattern, due to orientation and siting, all of the units formulated for Perry were refined and carried over into this hospital. As a result of our studies of the operation of Perry County Hospital, we realized that in a small community hospital, the family and friends of very sick patients should have some place to congregate. In this facility a family room was provided to keep family and friends out of the patient corridors where they added to the confusion,

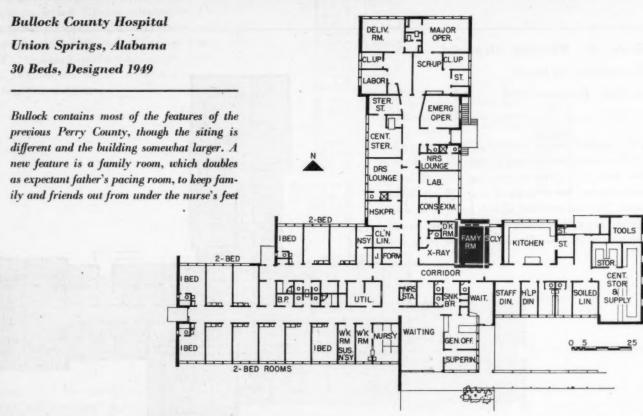
Perry County Hospital Marion, Alabama 20 Beds, Designed 1948

An early example of the architects' attention to staffing problems, this hospital shows several features carried forward in later buildings—combination of operating and delivery suites in cul-de-sac location, nurses' station placed for best control, isolation rooms designed to serve also as psychiatric room, or as private room. The various elements were planned for a staff set-up in which several employees have multiple duties—in the office, the laboratory, the housekeeping department









disturbed other patients, and generally got in the nurse's way. This additional space has added to the efficiency of the operation. It also is used as an expectant father's room, when not otherwise in use. All subsequent plans include this unit.

Bryan Whitfield Memorial Hospital, a 30-bed facility at Demopolis, Alabama, shows few changes in thought. It is significant primarily as it indicates how the advances and developments made in previous hospitals have been refined and expanded to meet the requirements of a larger facility. This hospital has had several years of successful operation, and is now planning a 10-bed addition.

Washington County Hospital, a 20-bed facility at

Chatom, Alabama, uses all of the basic elements previously developed; however, circulation patterns and controls were restudied, and segregation was handled most successfully. The housekeeper-dietitian-supply officer's office was relocated adjacent to the service entrance, for control, as many a hospital shows loss due to the back door route. This facility has been fully utilized by the community and has operated several years within its budget.

Conecuh County Hospital at Evergreen, Alabama, which followed Washington County, is possibly the best up until that time, as far as control is concerned.

The usual general elements already described were included, and the most attention was paid to circulation

and nurses' station control. The double-corridor system, with central core with clerestory was retained, and used to a decided advantage. Nurses' stations here control all major corridors.

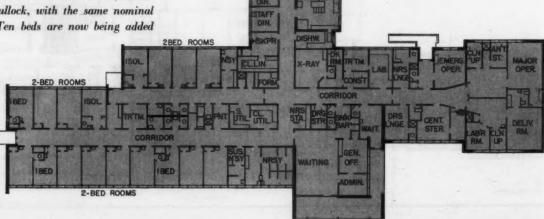
The Chilton County Hospital at Clanton, Alabama, shows significant deviations in some respects. These deviations resulted from a community situation which had not heretofore been encountered — the existence of a hospital and a number of practicing surgeons already established in the area. In most of the other communities, the hospital has been intended partly to attract surgeons to the community, and the growth and success of the hospital would depend to a considerable extent upon the reputation of the surgeon who came to practice in it. Also, these other hospitals had in each case been the first local hospital. In Clanton, the hospital designed was to replace an existing facility

which had been condemned by the State Health Department. The larger operating facilities in Chilton County were determined by the fact that the practice of several surgeons was already assured at the time of planning.

There is only one multi-story hospital in this group—the Barbour County Hospital at Eufaula, Alabama. It is interesting to note that in this three-story building it was possible to carry through the same basic elements that appear in the single-story hospitals, and the integrated units that have worked so well in the smaller jobs are retained. However, since the town of Eufaula is located at the converging points of several major highways, the automobile accident rate is proportionately high, and this fact indicated larger facilities for emergency, operating, fracture, and an observation room for the emergency suite. The same fact to a large

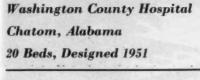
Bryan W. Whitfield Memorial Demopolis, Alabama 30 Beds, Designed 1950

This hospital is quite similar to the previous one, Bullock, and in general sums up ideas already shown in this series. It is of interest principally to show how the same elements can be combined in a different arrangement. This one does have its own boiler room, and is slightly larger than Bullock, with the same nominal capacity of 36 beds. Ten beds are now being added

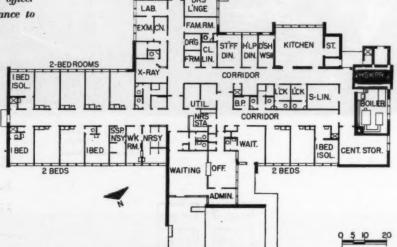








Here again the same basic elements are used, but in an entirely different arrangement. The segregation problem is differently handled, and experience has shown that this scheme works well. The housekeeper-dietician-supply officer was relocated next to the service entrance to make pilferage difficult



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extent sized the operating suite, which provides two major and one minor operating room. Here for the first time we initiated a recovery room for the operating suite. The size of the operating suite in relation to the size of the hospital was further influenced by the prominence of its chief of staff — a surgeon who owned the existing hospital, and had agreed to close it upon completion of the new facility, and early ambulation, of course, justified the arrangement.

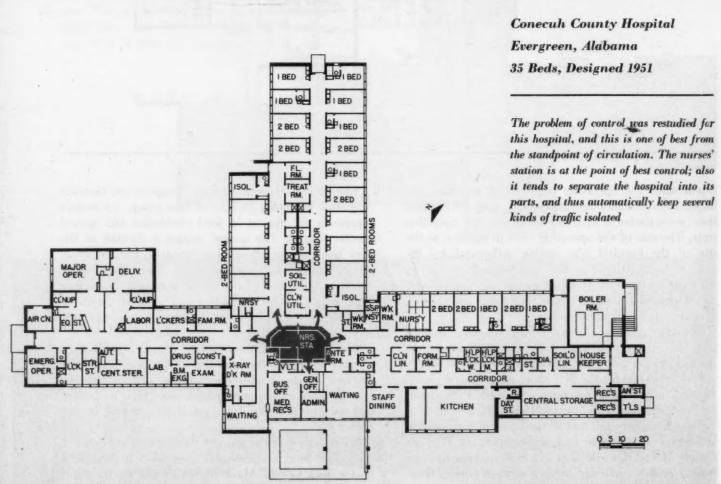
The third floor contains the delivery suite and 25 beds for maternity patients and clean surgical cases. In the nursery on this floor, the wash-fountain, centrally placed, was used for the first time, planned and placed for easy accessibility for nurses to wash their hands between handling of different babies.

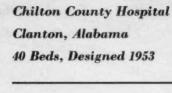
The earlier hospitals had all used central tray service, but owing to the size and arrangement of Barbour County Hospital, we decided on a bulk food distribution system, with a small diet kitchen on each patient floor. The 40-bed Geneva County Hospital, at Geneva, Alabama, the latest facility of this group, we believe represents the utmost in good circulation and nurses' station control. The nurses' station is located at the very heart of the intersecting corridors, and the nurse on duty is at all times virtually looking down every corridor. She is also placed at the center of the patient load. As in Chilton County Hospital, enlarged operating facilities were indicated, due to the presence of several practicing surgeons.

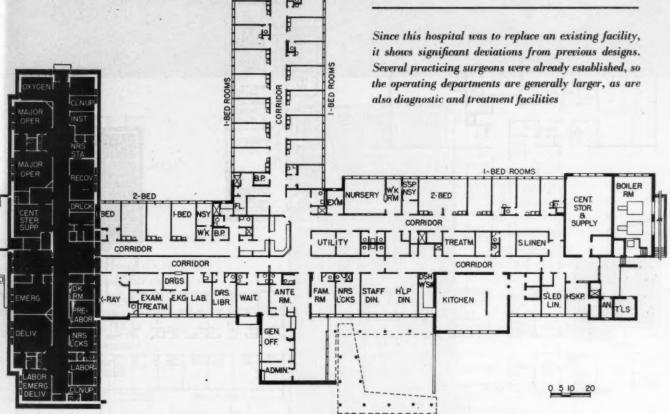
The adjunct facilities, though enlarged in Geneva County Hospital, retained the unit set-up, and such features as the housekeeper's office adjacent to the rear entrance also re-appear here, since their usefulness and advantage have been positively proved in the earlier jobs.

We believe that the greatest influence on our hospital work has been the splendid leadership in this field by Dr. Jack Cronin, Marshall Shaffer and the technical



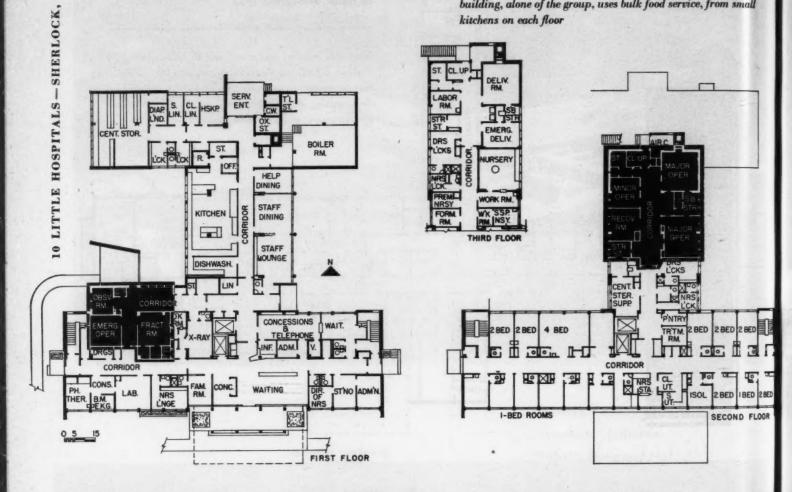






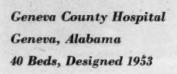


The only multi-story building in this group, Barbour has most of the features earlier shown, but of course the plan layout and circulation are entirely different. A high accident rate, due to major highways, determined the larger size of the emergency suite, also affected the major operating group. This building, alone of the group, uses bulk food service, from small kitchens on each floor



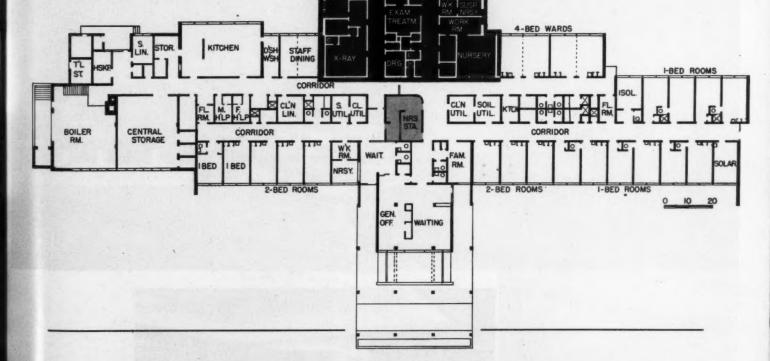






The last of the series of ten small hospitals, this one represents the culmination of a great deal of study. Notice especially the nurses' station and the control it affords of all parts of the

building. Also worthy of study is the scheme for the operating and delivery suites and the nursery section. Several important elements are put together in this wing, with its double corridor arrangement, so that several important interrelationships are properly maintained. Several traffic lanes may overlap at one end of this wing, but they are gradually sorted out by the functions of the rooms until the operating departments can have absolute isolation



staff of the Hospital Facilities Division of U. S. Public Health Service. The vast amount of research published in their technical bulletins, and their able administration of the Hill-Burton Hospital Construction Program have rendered a great service to the architectural profession, and have demonstrated the way a government planning agency should function.

We trust that these hospitals demonstrate avoidance of the ever-present architectural hazard — the stereotyped office solution. Because of what we have accomplished in them, others of our hospitals have been better. The end is not yet in sight, nor, we trust, will it ever be, for we do not believe that the ultimate will ever be reached.



100-BED HOSPITAL WITH SPECIAL FACILITIES FOR





Tamell Inc

An example of good planning in many respects, this hospital is especially noteworthy for its facilities for treating polio. The incidence of Poliomyelitis had been unusually high in the area for many years, so the polio wards were planned to fill a real need. There is an emergency polio operating room next to the acute ward (third floor plan, next page); there are also facilities for physical therapy, hydrotherapy, diathermy, and space for exercise. Beds are in wards in this department as most of the patients would be children, although there are no real ward rooms elsewhere in the hospital.

The plan uses its own variation of the conventional T form, although here the base of the T is widened and shortened. On the first floor this rectangular area provides an ideal shape and location for kitchen and storage space. On the second floor it houses an unusually well laid out combination of operating and delivery suites. These departments are large enough for ultimate expansion of the hospital to 200 beds. The double corridor arrangement keeps these departments separated from each other and isolated from the rest of the hospital,

yet the departments are close together in a scheme very convenient for nurses and doctors. Also the emergency suite is adjacent, though again kept isolated, to keep the "dirty" emergency cases away from the surgical areas. If sterile supply could have had a corner location in the same wing, that would be ideal, but its actual location is quite convenient.

A fortunate topographical condition made it possible to have the emergency and ambulance entrance widely separated from the visitors' entrance and up one floor.

The building is of conventional reinforced concrete construction. Floors are of the joist and slab type, with suspended plaster ceilings. Exterior walls are of face brick, backed up with hollow tile. Interior partitions are of red clay tile, generally covered with sand-finish plaster, though smooth plaster is used where frequent washing is necessary. Kitchen and service rooms have walls of structural glazed tile, with quarry tile floors; service kitchens, nurses' utility rooms, and surgical suites have ceramic tile walls, and the floors are of either tile or carbon conductive terrazzo. The building is completely air conditioned throughout.

## TREATING POLIO

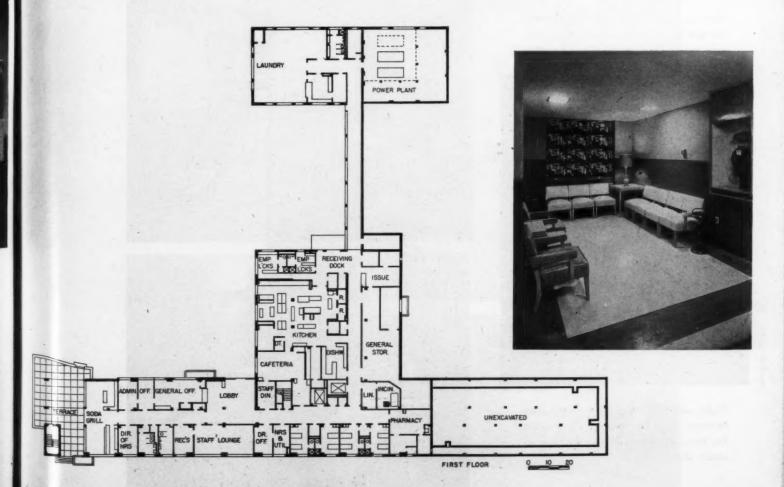
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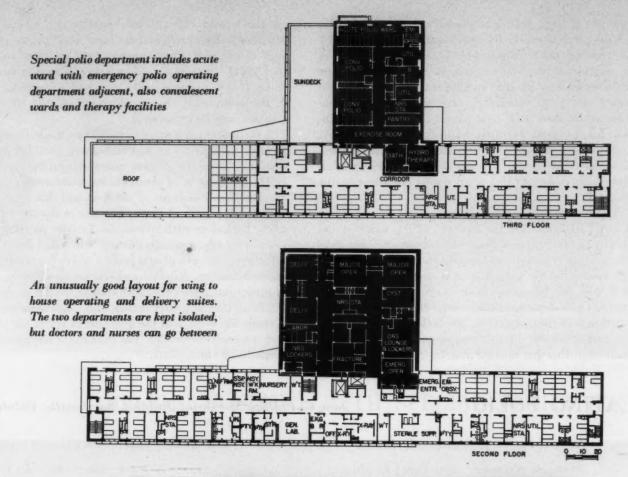
Jane G. Phillips Memorial Hospital, Bartlesville, Oklahoma

Neville, Sharp & Simon, Architects

Pfuhl & Shideler, Structural Engineers

William I. Cassell, Mechanical Engineer
Hare & Hare, Landscape Architects





Below: sitting room at end of nursing unit; can also be used as bed room. Right: view into pantry, and polio nurses' station



Right: virtually all patient rooms have lavatory, toilet and shower. There are a few two-room suites, with sitting room as shown above







View in operating department; cystoscopy room at far right



One of the major operating rooms



One of the delivery rooms



Interior of cystoscopy room

Below: the Bartlesville area having suffered a high incidence of polio, the hospital has a special department. Left: acute polio ward; right: exercise room









Above left: wall between nursing room and waiting room will give visitors, or expectant fathers, a good view. Right: large snack bar opens onto terrace

Below left: central sterile supply room, second floor opposite surgical suite. Below right: laboratory in same general location, conveniently near surgery



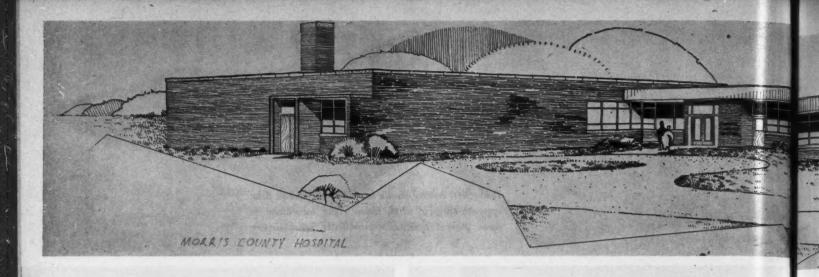






Hawks-Terrell, Inc

Above: Jane G. Phillips hospital has its own extensive laundry in isolated rear location near boiler room, connected to main building by passage



## 30-BED HOSPITAL FOR MINIMUM PERSONNEL

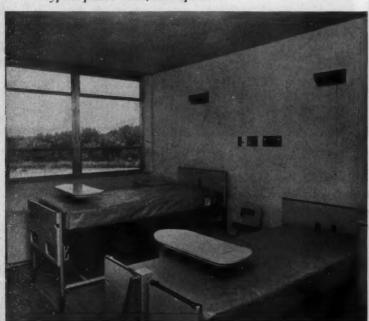
Morris County Hospital, Council Grove, Kansas

HERE IS ANOTHER small hospital planned with principal emphasis on operation by a small staff, with some of the employees doubling in various responsibilities. A hospital of but 30 beds is a small operating entity, and skilled personnel must be skillfully used. The compact arrangement of operating room and delivery suite, in interior space, is one feature that makes possible multiple usefulness by top nursing staff. The same people, moreover, might serve in the adjacent emergency room, or even in laboratory or x-ray. Of course, there is not supposed to be cross traffic between departments such as these, but in a small hospital the use of facilities is likely to be quite intermittent. The nurses' station, too, is placed so that a nurse can serve also in the admitting office. The nurses' station is located at the center of what is in effect a cruciform plan,

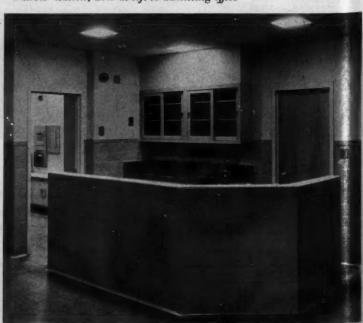
the traditional location for good control. This is especially good for the night hours, when a single nurse would be in charge of the entire hospital. This plan shows the usual advantages of the cruciform scheme, with isolated locations for all major departments, and with the possibility of enlarging outward from the center. Indeed the scheme was drawn for the addition of 16 to 20 more beds.

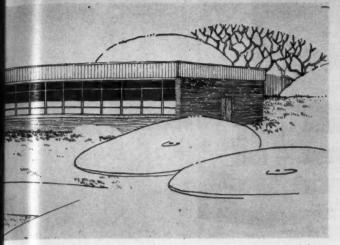
Economy of building maintenance was another major design objective. Exterior walls are of brick, windows of aluminum, projected sunshades and parapet enclosures of porcelain enamel, so that painting is virtually eliminated on the outside of the building. Contracts totalled \$355,552, exclusive of Group II and III equipment, land and fees, or \$21.60 per sq ft: \$1.54 per cu ft.

Typical patient room, east exposure



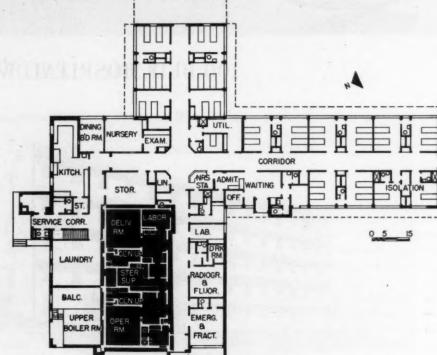
Nurses' station; door at left to admitting office





Plan is essentially cruciform, except that boiler-laundry-kitchen wing is folded back against surgical wing. Scheme makes for economy of both construction and operating of the hospital with minimum personnel

F. O. Wolfenbarger & Associates, Architects
Finney & Turnipseed,
Structural Engineers
E. E. Hysom & Associates,
Mechanical Engineers



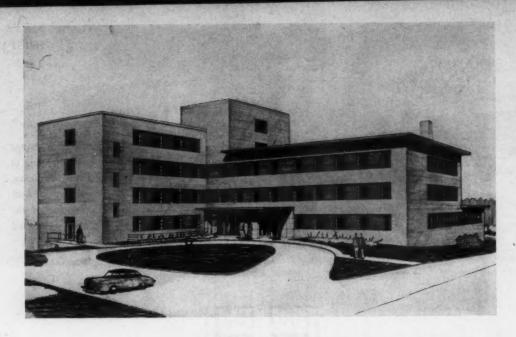
FUTURE NURSING ADDITION

Operating room in interior space

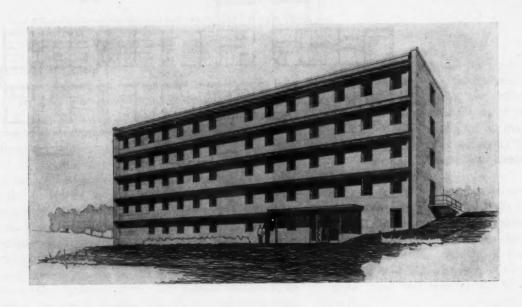


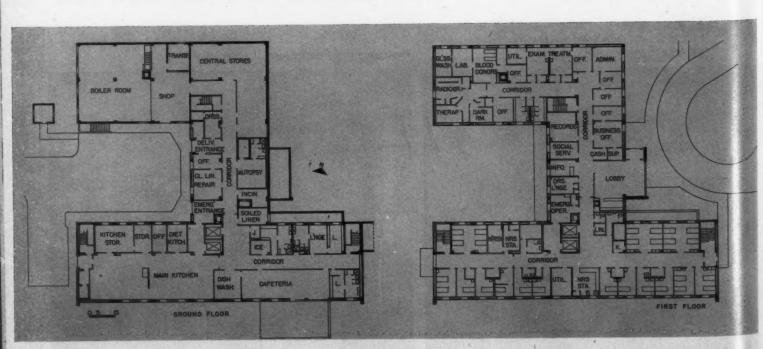
Emergency and fracture room (light-proof shades)





100-BED HOSPITAL WITH PUBLIC HEALTH







## UNIT FOR A LARGE RURAL AREA

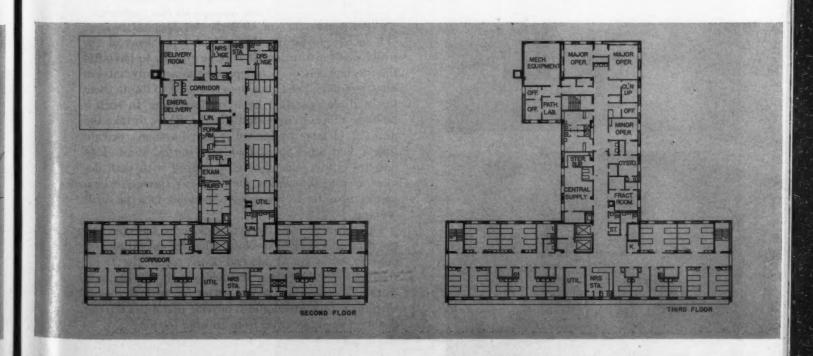
Broaddus Hospital, Philippi, West Virginia

C. E. Silling & Associates, Architects

In its present stage this hospital has a capacity of 102 beds; this to be increased to 134 beds with the addition of a fourth floor nursing unit (shown on renderings). This building is an example of the flexibility of the T plan. The conventional use of this scheme is seen on the third floor — nursing unit in the top of the T, surgical suite in the base. On the second floor, however, much of the base is used for patient rooms, with the delivery suite extended outward. Similarly the ground and first floor plans are extended to add space.

The first floor houses a normal out-patient department, but adds on a public health unit. The hospital seems large for a small community, but serves a large area.

Construction is steel frame, with slab floors on steel joists. Obstetrical and surgical departments are airconditioned. The building cost \$1,575,000 (present stage), exclusive of land, fees, and loose equipment. On this basis cubic foot cost is \$1.84. The hospital is pleasantly situated on the Alderson-Broaddus College campus, and will offer a nurse training program.





## 70-BED HOSPITAL WITH NON-TYPICAL T FORM





Margaret R. Pardee Memorial Hospital Hendersonville, North Carolina Six Associates, Architect and Engineers

WITH A CAPACITY of 70 beds this hospital is large enough to escape the personnel problems of the really small institution. It is large enough to have full time technicians in such departments as x-ray, laboratory, pharmacy, and thus does not need to locate them for multiple operation by a single person. In such a building efforts to save staff time are likely to take the direction of more equipment — signal systems, private toilets, and other items that save nurses' steps. This hospital is exceptionally well equipped with such devices, also with facilities, such as x-ray therapy, which permit use of the techniques too specialized for the small hospital.

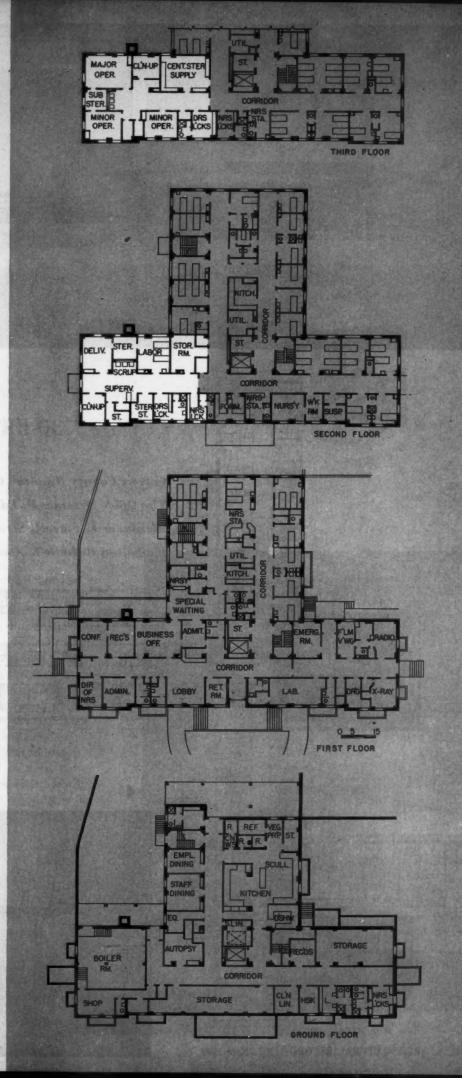
The building takes the typical T form, but does not use it in typical fashion. Notice that the operating and delivery suites are at one end of the top of the T, instead of in the base. Here it would appear that the base section, being larger, serves better for patient rooms, with the double corridor idea proving useful to keep the distances of nurse travel from growing too long.

Third floor is similar to second, except that surgery takes place of delivery suite

Delivery department is in top of the T, instead of more typical position in base

This hospital has the problem of segregation, with the separate, and wasteful, nursing unit

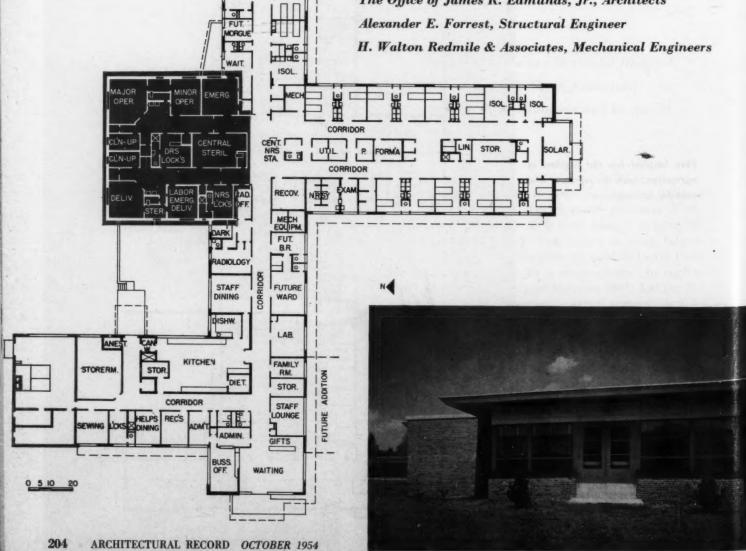
Basement is at ground level at rear, for convenient loading of supplies and fuel



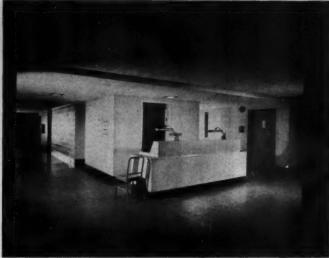


## 30-BED RURAL HOSPITAL

Calvert County Hospital, Calvert County, Maryland The Office of James R. Edmunds, Jr., Architects Alexander E. Forrest, Structural Engineer







seph W. Mollic

## PLANNED FOR LATER EXPANSION

S HOSPITAL STANDARDS have been defined at a A high level, along with medical techniques, the small rural hospital has faced some problems. It must have operating, delivery, diagnostic and treatment facilities, just as a larger institution, but all of the necessary equipment and departmentalization places a burden on the small community, tends to increase operating costs as well as construction budgets. If the community is fairly isolated, as this one is, it is difficult to leave things out on the theory that some patients will be referred to city hospitals. This hospital indeed was so isolated that it had to build its own power plant, water treatment facilities, and sewage disposal system. Its present bed capacity is 30, but additional bed space will eventually be added at which time its present extra capacity in some departments will be put to better use. It is planned for operation with minimum nursing personnel, but it does have department layouts that make no compromise with full hospital standards, with piped oxygen as a single example of good practices.

The building is slab-on-grade construction with masonry walls. Exterior wall is brick with the interior face of fine-textured block, which is also used for interior partitions. Ceilings are of plaster, except where acoustic treatment was necessary.







Above: at the Calvert County Hospital most of the beds are in two-bed rooms; all rooms have lavatories, with connecting toilets. Left: view into emergency room from waiting room at the ambulance entrance. Below: nursery has separate cubicles for the bassinets; nursery is reached only through work room



anh W. Maliton



## INTERIM REPORT ON 3500-BED HOSPITAL

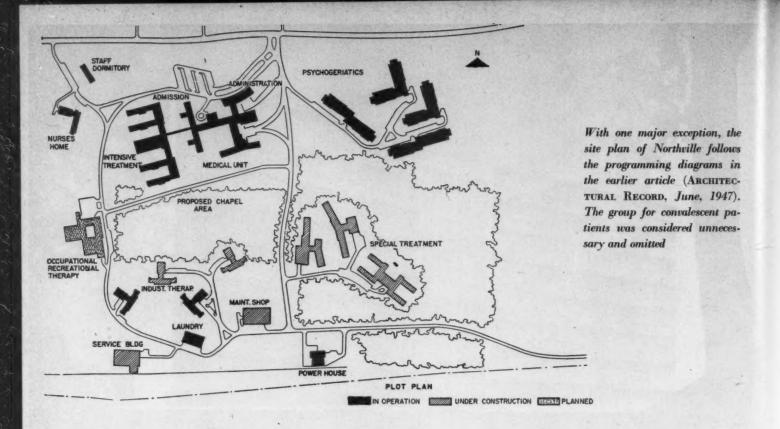
Northville State Hospital, Northville, Michigan

O'Dell, Hewlett and Luckenbach, Architects

Several years ago (June, 1947) the Record published an account of the programming researches that preceded the planning of this new 3500-bed mental hospital. At that time the architects were in effect breaking through an age-old barrier in mental hospital design, with no modern precedents for guidance. Mental care was obviously going into a new era, but neither architects nor doctors had any sure knowledge of how new treatment techniques would change the patterns of mental hospitals, or how even to classify patients in various groups and different kinds of building facilities. Preliminary programming, then, amounted to a pace-setting study.

This presentation is by way of being an interim report on the building of this great hospital, concentrating mostly on the largest building of the group, the medical unit. The site plan (next page) shows how construction is progressing. The larger group of connected buildings was the starting point — administration, admissions, medical unit and intensive treatment buildings. Some of the other buildings are in operation, others under construction. It will be some years yet before the planned scheme of operation can be realized; probably no single building can function according to its true purpose until all are finished and operating. Right now, for example, the medical unit, designed for physically ill bed patients,





is having to house many different patient groups, even including disturbed cases. For the new groups of buildings must pick up their share of the state's load as new accommodations are provided, theories of building design notwithstanding.

Dr. Philip N. Brown, medical superintendent, reports nevertheless that "we who work in it are very proud of the installation." Apparently some of the newer design ideas are proving out even if the patients cannot be properly sorted out. "The extensive use of glass," reports the doctor, "has provided lightness, and the many pastel colors used in painting the rooms have produced an atmosphere for our patients which we consider extremely satisfactory. The small wards in the hospital, none of which houses more than 54 patients, also, we feel, have worked out extremely well as far as the care of the patients is concerned, and is much more desirable than large wards, housing from 100 to 150 patients.' The doctor points out, however, that the small wards require more attendants. Incidentally, it should be explained that "wards" here means nursing units in the planning sense — no single room houses more than six patients.

Mr. Luckenbach, of the architectural firm, makes it clear in his notes that it was all planned that way: "One of the features that we deliberately planned was that no ward in these buildings should have more than six patients. It was felt that this would force the institution to have more attendants and therefore be able to do a better therapy job. It has actually worked out that way and the superintendent likes it, but he is not always able to get the personnel to do the job required."

The doctor also mentions some difficulties, where the appointments did not work too well in practice. One was with elevators — "we have had a considerable amount

of difficulty with our elevators. It would be our recommendation that, instead of having button calls on the various floors, all of these should be keyed switches, so that the elevator could be called to that particular floor only by a member of the hospital personnel who has a key."

The matter of detention screens was thoughtfully worked out, and the difficulties of non-conforming use were anticipated. The glass areas are generally quite large; in order to avoid the appearance of detention sash, half aluminum sections were used, and all glass in patient areas above the ground floor is tempered plate glass. The opening of windows is restricted to five inches, and this was felt to be adequate protection for the majority of patients in the medical unit. However, since this building would have to house others at first, provision for psychiatric sash was made.

Heating is calculated at 65 per cent radiant heat and 35 per cent warm air. There was some thought that this might prove expensive, but it is not believed so, since normal radiators would have to have tamperproof grilles and fittings for mental hospital use. In any case, the superintendent speaks favorably of the heating system as it is.

Acoustical plaster was used throughout, except in service areas and detention rooms. All corridors are glazed structural facing tile, with a quarry tile base and cap to soften the rather institutional appearance. Stairways are lined with face brick with exposed concrete floor beams and ceilings.

One equipment item that is much used is a music broadcasting system. Patients use it for playing records and for broadcasting their own live talent as well. It is one extra feature that distinguished the old type of mental hospital from the new.



Below and right: main entrance and its lobby were kept as bright and cheerful as possible, with plenty of glass and gay modern furnishings within





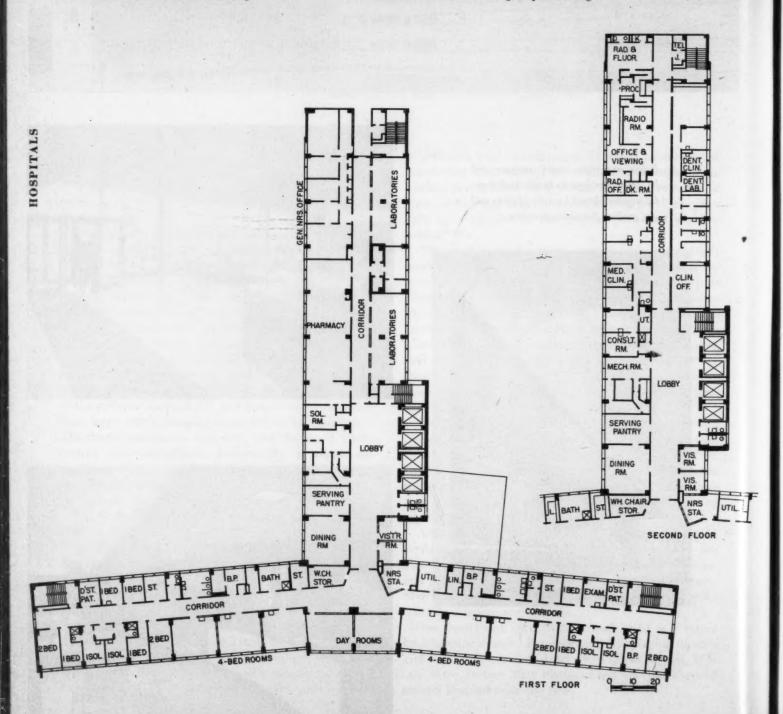




Main corridor in administration building



Medical wards have glass partitioning

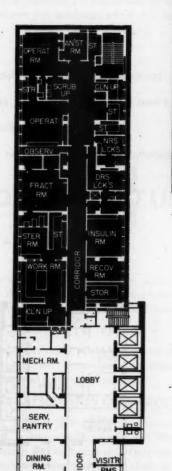




Major operating room



Gallery overlooking operating room



Nurses' station in medical building

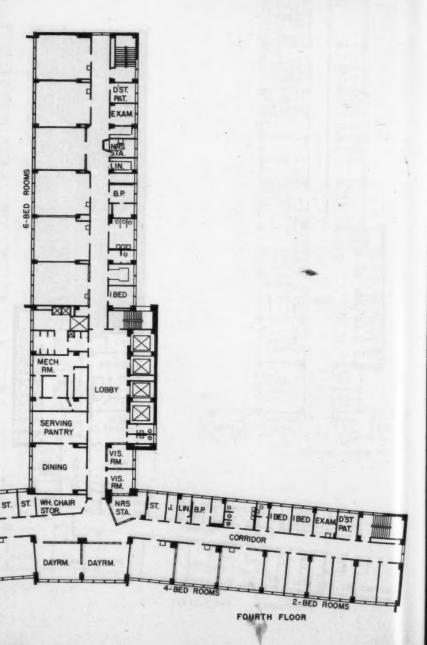




hard Shirk



Among the other buildings that contribute to the handling of 3500 mental patients are the boiler house, above and upper left, and the staff dormitory







George Montgomery Photos

Stressed-skin roof panels, 4 by 16 ft, of fir plywood pressure-glued to 2x4's, are shop-assembled for installation in Carl Koch's Techbuilt house (left). Note aluminum foil insulation which has been inserted between the plywood skins

Engineering principles are responsible for new structural

systems (such as stressed-skin panels) and for more

efficient use of century-old systems (such as plank

and beam), both of which could be more fully exploited

## WOOD STRUCTURES FOR HOUSES

By Albert G. H. Dietz and William J. LeMessurier \*

For design data on stressed-skin plywood panels, see beginning of the new Time-Saver Standards series on Engineered Wood Design, pages 225, 227 and 229. Later issues will cover wood trusses and plank and beam construction

Woop, the most traditional material for house construction, is being neglected by today's designers in favor of carefully manufactured materials with engineered design. These new building materials have made possible structural methods adapted to the modern architectural trend toward the use of large glass wall areas, plans with continuous open spaces and unconcealed surfaces. However, wood does not have to be sacrificed in order to have up-to-date house construction. In the discussion that follows several engineered uses of wood will be considered. Detailed de-

signs for many of these applications will appear as "Time-Saver Standards" in this and subsequent issues.

#### STRESSED-SKIN CONSTRUCTION

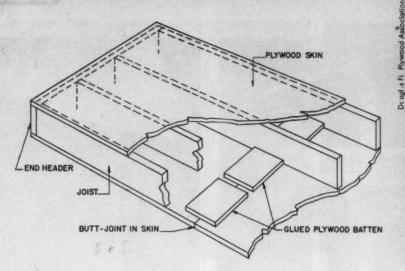
Stressed-skin construction is a method of building walls, roofs and floors in which the surfacing materials are made to act integrally with the studs or joists to which they are attached. In ordinary building methods, flooring, ceilings and wall coverings act structurally only to carry local loads and keep out weather; they are otherwise dead weight. In stressed-skin construction these coverings are continuous skins which are bonded firmly by gluing to the studs or joists. They thus contribute greatly to the strength of the combination. The

principal requirement of this skin material is that it be continuous, and in house construction plywood is almost universally used. To achieve proper control and efficiency, stressed-skin construction demands prefabricated assembly.

The principal advantage of stressed-skin construction is its efficient use of materials. Without increasing joist sizes, longer spans can be achieved than are possible with standard procedures. In the usual house construction, for example, 2 x 10 joists of No. 2 Structural Douglas Fir spaced 16 in. on center can span only 16.4 ft with live-load deflection limited to ½60 of the span and total deflection limited to ½60. The same joists at the same spacing with a glued-on top skin of 3%-in. plywood and a

<sup>\*</sup> Professor and Assistant Professor, respectively, in the Department of Civil and Sanitary Engineering, Course in Building Engineering and Construction, Massachusetts Institute of Technology.

### A 1 = ARCHITECTURAL ENGINEERING





Left: Typical stressed-skin panel. Right: Stressed-skin wall panel which is hinged to ceiling panel and swings into position as roof section of three wood trusses is hoisted into position for a house designed by John Graham, Seattle architect

bottom skin of ¼-in. plywood can span 22.2 ft with the same deflection limitations, an increase in span of 35 per cent. Expressed as an increase in load-carrying capacity on identical spans, the joists with the glued-on skins will carry 109 per cent more load.

An additional benefit of this method is the labor saving obtained in shop fabrication. For a single building, the labor saved will be little if any; but for a large group of houses, prefabrication will reduce total costs.

To design floor panels with plywood stressed skins, a computational procedure similar to that for steel-plate girders is used. The top plywood skin acts as a compression flange, the joists as webs, and the bottom skin as a tension flange. Only those plies of the plywood having grain parallel to the direction of the span are considered in calculating the moment of inertia. Since the top skin is in a state of almost pure compression, it is subject to buckling and its effectiveness depends on the closeness of joist spacing. In addition to direct tension and compression in the plywood, shearing stresses between plywood and joists are critical. For adequate strength this joint must be glued under pressure. A detailed procedure of gluing is given in the "Time-Saver Standards" accompanying this article.

The principal difficulties of using stressed-skin panels occur in the joints between panels and at discontinuities in the skin. At the joint between parallel panels, splines or dowels may be used to prevent differential deflections. If one panel is splined into the adjoining panel, the projecting edges of the plywood must be protected against damage from

handling by a temporary filler strip. To obtain panels longer than 16 ft, the plywood skin must be spliced, since plywood is not readily obtainable in lengths greater than 16 ft. Full continuity may be achieved by gluing a plywood batten over a butt joint in the skin.

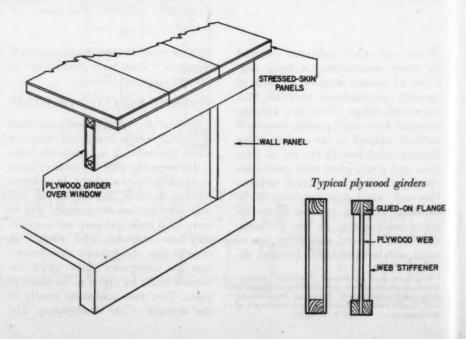
To make the most effective use of standard materials, stressed-skin plywood panels may be built of regular 4-ft-wide sheets using four regular 2-in. nominal joists in the cross section. Panels may be made in any length, although the length should be planned to use full plywood sheets where possible in the 8-, 10-, 12- or 16-ft lengths. For the top skin in floor construction, plywood of ¾-in. thickness should be used when it is the only structural material spanning between joists. In all but very thin panels, a full header is required at

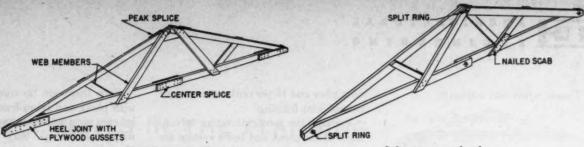
each end of the panel to provide lateral rigidity to the joists.

For special uses, such as short spans or light loads, panels may be designed with a skin on one side only. Or when necessary, the plywood skin may be designed to stop short of the ends of the panel to facilitate installation of wiring, piping and ductwork between joists.

#### PLYWOOD GIRDERS

Girders built with plywood webs and solid or laminated wood flanges are used for very long spans and heavy loads. They are especially useful when incorporated into walls or partitions, as in a spandrel over a large window. Here the structural action of stressed-skin panels is reversed. The plywood becomes the web member and the solid lumber, the flanges. The economy lies





Nailed trussed rafter

Split-ring trussed rafter

in using thin material in the lower stressed central portion of the girder and concentrating the lumber at the top and bottom of the section.

The design procedure for such girders consists in proportioning flanges to carry the tensile and compressive stresses set up in bending and in dimensioning the plywood webs to carry shearing stresses. In general, the calculations are similar to those made for a steel-plate girder. They are normally glued together for maximum strength, although they have been successfully built with nails only, the nails being computed for shear as in the design of rivets for a riveted steel-plate girder. In checking deflections for wood girders, the contribution of shear deflection as well as bending deflection should be considered. To prevent local buckling of the plywood, stiffeners are usually necessary. Girders of built-up wood construction will not economically replace the steel or wood girders of normal house construction. Their best use is where a thin, deep girder can serve as structure and wall simultaneously. Detailed discussions of the design procedure for both stressed-skin panels and built-up plywood girders are in "Technical Data on Plywood," published by the Douglas Fir Plywood Association, Tacoma, Wash.

#### TRUSSED RAFTERS

The trussed rafter is a sophisticated cousin of the standard rafter as used in gable framing. The ordinary pitched roof is built with pairs of fairly deep rafters meeting at a ridge and tied by ceiling joists from plate to plate. This form of construction is the most elementary truss, since it consists of a single triangle. When the width of this triangle becomes large, however, the sizes of the rafters and ceiling joists become excessive. Since these members must carry roof and ceiling loads as beams between the corners of the triangle, their size is primarily determined by beam action. By subdividing the large triangle with additional web members, the spans of each piece between joints are reduced. This in turn reduces the depths of the members needed to resist bending. This more complex construction is commonly called a trussed rafter.

The trussed rafter, by the reduction of bending moments in the individual elements, is capable of spanning much larger distances than simple rafters. Rafters, or chords, as they are called in this case, may be 2 x 4's when trussed instead of 2 x 6's or 2 x 8's. The ability of the trussed rafter to span clear between outside walls eliminates the need for interior bearing partitions. Other partitions installed to subdivide space may be made thinner, and complete flexibility of interior planning is possible. By omitting bearing partitions, foundations are also simplified.

Since the trussed rafter is a rigid, self-contained unit, it may be completely prefabricated. Either in the shop or at the site, a simple jig may be set up and rafters assembled with production-line efficiency.

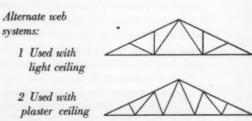
The chief disadvantage of the trussed rafter results from the elimination of attic space by the presence of web members. Since attic space is lost, roof pitches are ordinarily low. This problem may be overcome with a somewhat modified form of the trussed rafter, utilizing principles of rigid frame design to create an open space in the center of the roof for storage.

The increased complexity of the trussed rafter necessitates careful work-manship and detailing. Each design must be carefully detailed, since the joints between members are critical. The extra labor required may, however, be reduced by well-planned prefabrication.

The connections between individual pieces in trussed rafter construction may be made with nails, bolts, or splitring connectors. Where spans are small and pitches not too low, nails alone may be used to make connections. With pitches lower than about 4 in 12 and spans greater than 24 ft, bolts or split rings are desirable. The critical joint is at the heel of pitched roof trusses. Here, at the plate, the outward thrust of the rafter must be transmitted to the horizontal bottom tie and the stresses are relatively large. The stresses at this point increase with increasing span or decreasing pitch. It is often impossible to obtain adequate nailing area here, and split-ring connectors are used instead.

In nailed construction the trussed rafter is usually built with the top and bottom chords lying in the same plane. The heel joint is then made with a pair of guesets connecting the bottom chord to the rafter. These gussets may be cut from ½-in. plywood or 1-in. nominal boards. Although twice as many nails are required at this joint compared with a lapped chord connection, the application of the web members is simplified. The web members may simply lap over the chords and be nailed directly to them.

For nailed joints, nailing templates of cardboard or light metal should be prepared. By planning nail placement and spacing carefully, strong joints may be built with little labor. When long spans require bolts or split-ring connectors, the truss assembly is slightly different from the nailed design. To minimize the number of bolts or rings required, the top and bottom chords are lapped at the heel joints. In this way it is usually possible to make a strong joint with a single split ring. Web members will then lap over one chord and be joined to the other with a scab. Assembly with split rings or toothed rings is a new technique for many carpenters, but when a trussed rafter is produced in quantity, the efficiency of these connections will offset time lost in acquiring new skills.



The web system for a trussed rafter may be made in several ways. The simplest and most common is the Pratt truss which uses one diagonal from the middle of the top chord to the third point of the bottom chord, and a second diagonal from the bottom of the first to the peak. This truss then consists of only four different types of pieces, using two of each. For longer spans, diagonals may connect the third points and peak of each rafter to the third or fifth points of the bottom chord.

Trussed rafters with overhangs





Roof overhangs are detailed most simply with a straight extension of the top chord. In no case should the heel joint be placed at the edge of the overhang. If it is desired to extend the bottom chord beyond the plate, a separate web member extending from the middle of the rafter to the plate is necessary.

#### PLANK AND BEAM CONSTRUCTION

Plank and beam construction as it is used in modern houses is essentially the same as the heavy mill structures which have served industry for over one hundred years. This method is characterized by the use of relatively few, heavy framing members to form a skeleton together with slab-like planking for floors and roofs. The plank and beam system is very close to steel framing in conception. As in any skeleton frame, this method of building achieves structural efficiency by concentrating loads on a few large pieces.

As applied to house building, the plank and beam frame consists of beams at spacings of 4 to 12 or more feet supported on isolated columns of at least 4 x 4 cross section. Tongue and groove planking of 2- or 3-in. nominal thickness spans between beams, forming the complete floor or roof structure.

By comparison with the normal joist floor construction, the most important savings with the plank and beam system results from the reduced number of pieces to handle. The typical joist floor involves setting joists, application of a subfloor, cutting and installing bridging, strapping, lathing and plastering. With the erection of beams and planking, the floor is complete in two operations. In a comparison made by the National Lumber Manufacturers Association, the plank and beam system saved 26 per

cent labor and 15 per cent material over normal joist framing.

Perhaps the most attractive advantages of the plank and beam system are architectural. Because of load concentration on posts, large window openings between beams are easily framed without heavy lintels. The requirement of regular beam spacing creates a disciplined structure, ideally suited to modular framing with the resulting elimination of cutting waste. The volume of interior space is increased. With the underside of the planks forming the finish ceiling, the thickness of the actual floor is only 2 or 3 in. The effective floorto-ceiling height is thereby increased 7 or 10 in. without increased studs or total building height.

In most cases, details are simplified with plank and beam framing. Roof overhangs may be built with short cantilevered beams on side walls and cantilevered planks on the end walls. A narrow fascia board and metal gravel stop and drip complete the eave. Foundations may be built of isolated piers directly supporting the beams in place of continuous foundations under bearing

One of the important reasons for using plank and beam construction for mill buildings is its relative fire safety. It is a fundamental principle of wood construction that the rate of burning depends on the ratio of surface area to volume of timber. Since wood does not lose all of its strength even if its surface is charred, the use of fewer, heavy pieces makes the construction slowburning. In addition, the lack of concealed spaces through which fire can spread makes the danger more easily detected.

Among the difficulties arising with plank and beam construction, the most important is the need for careful location of partitions over floors. Since the planking is not ordinarily adequate for heavy concentrated loads, partitions should be located over beams. When this is not possible, as with partitions at right angles to beams, extra framing members must be provided. A 4 x 4 or 4 x 6 sole at the base of such partitions may span between beams. Additional light members between main beams may be required beneath bathtubs and other concentrated loads.

Built-up beam with wiring trough

Since there are no concealed spaces with plank and beam framing, particular care must be taken to plan electrical wiring. Raceways may be provided along beam bottoms by using cross sections built up from three or four pieces of 2 in. nominal thickness. Concealed troughs for lighting fixtures may also be built in this way.

In building roofs with the plank and beam system, insulation is ordinarily required to prevent undue heat loss and to eliminate condensation. The most effective location for this insulation is above the planks. Since the insulation must be able to support the weight of workmen without crushing, it should be of the rigid type, preferably nailable. A vapor barrier between insulation and planking is essential to prevent condensation, and the thickness of the insulation must be designed to keep the temperature at the vapor barrier above the dew point.

A further requirement of plank and beam construction is the need of materials of good quality and for careful workmanship. If the plank is exposed, lumber of better character than ordinarily used for subflooring is needed. Large knots, streaks, resin ducts and other blemishes will be objectionable even with paint. Carpenters should take particular care to align planking at right angles to beams. In most cases planks must be made continuous over two or more spans to reduce deflections, and careful supervision is necessary to prevent the use of short lengths. Ideally, a drawing showing the exact location and length of all planks should be provided for each case. Careful engineering and architectural design will ordinarily effect sufficient savings to offset the cost of the extra quality.

#### CONCLUSION

Stressed-skin construction, built-up girders and trussed rafters use wood to build longer, lighter spans. To accomplish this goal, greater complexity and more prefabrication is necessary than is common with traditional methods.

The plank and beam system attains the goal of greater simplicity in construction by using fewer and heavier pieces. But both approaches are valid ways of building better, more economical houses. In all cases the reduction of labor in erection of the individual building is a common denominator. Further progress with wood will increase this saving.

Eave

detail

# BASIC ELEMENTS IN THE PLANNING OF ELECTRICAL SYSTEMS

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#### ARTICLE 5:

#### HOSPITALS

This is the fifth in a series of six articles. Previous articles were: 1. General Principles, February. 2. Office Buildings, March. 3. Stores and Shopping Centers, May. 4. Industrial Buildings, August.

The electrical demand of a modern hospital ranges from less than 1 kw per bed to more than 2 kw per bed depending on whether cooking and sterilizing operations are performed electrically or by other means. Electricity is used in many applications of which the most common ones are shown on the accompanying chart.

The desirable qualities of the electrical system can be listed in the following relative order of importance: (1) safety, (2) reliability, (3) durability, (4) appearance, (5) expansibility, (6) low initial cost, (7) flexibility, (8) low operating cost, (9) small space.

The order of the above items may vary with each project but safety, reliability and durability should always be considered first.

As for safety, the National Electrical Code (or local code) must be followed as with other installations. But, in addition, special attention must be paid to Article 500, "Hazardous Locations," of the aforementioned code and to Bulletin 56 of the National Fire Protection Association, "Recommended Safe Practice for Hospital Operating Rooms." The NFPA Bulletin explains the problems of explosion hazards in surgical areas and recommends solutions. It is directed not only to the designer, but to the hospital staff as well.

#### Reliability: Power Sources

Reliability of electric service can be attained in various degrees by one of these arrangements:

 Two utility company services, each independent of the other, and each capable of carrying the entire load.

- One utility company service for normal load, and one utility company service, independent of normal service, of sufficient capacity to carry emergency load.
- One utility company service for normal load, and one stand-by generator for emergency load.
- 4. A private generating plant with utility company stand-by.
- Utility company service with standby batteries for emergency lighting only.

The extent of stand-by provisions will depend on the probable frequency and duration of outages on the utility system. For instance, where a hospital is served by a dependable underground network system, as in city downtown areas, only a minimum of stand-by is required. At the other extreme, an isolated hospital served by overhead rural lines subject to lightning and sleet conditions must have stand-by capacity for a considerable part of normal load.

The following loads are considered essential:

- 1. Surgical and delivery suites
- 2. Stair lighting
- 3. Partial corridor lighting
- 4. Exit signs
- 5. Fire alarm system

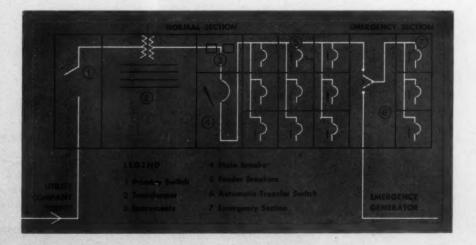
- 6. Boiler plant operation
- 7. Food refrigeration
- 8. Certain laboratory processes
- In multi-story hospitals at least one elevator to move stretcher cases
- 10. Incubator.

If cooking and sterilizing is electric, portions of these loads must also be emergency service.

Emergency loads should be supplied through an automatic throw-over switch. (See drawing of unit substation below.) This switch is connected to normal supply until normal supply fails, when it automatically connects to emergency supply. If the emergency supply is an automatically started generator, some time will elapse between failure of normal supply and full voltage output of the generator. Therefore, the operating room lights should be connected to a battery to keep them working until the generator voltage is high enough.

The prime mover for the emergency generator is usually a gasoline or diesel engine. Gasoline will start more easily, while diesel is less hazardous. Either engine requires a battery for starting which must be kept charged at all times.

Reliability of the interior wiring systems can be further increased by splitting the loads within given areas between two feeders.



#### ELECTRICAL REQUIREMENTS

#### NURSING AREA

#### PATIENT'S ROOM

Equipments Fan outlet : Convenience outlets

Communications: Telephone | jack • Nurse call station at bed and tollet • Nurse call light over door • Television antenna autiet • Multi-abannel broad-

Lighting: Bed light • General room light • Lavatory light • Night light

#### NURSES' STATION

Equipment: Clock • Drug closet tamper outlet

Communications: Nurse call central station • Telephone • Fire plarm station

Lighting: Corridor lighting control

#### PANTRY

Equipments Toasters • Hot plates • Refrigerator • Range • Food cart warmer outlet • Egg boller • Clock

Communications: Nurse call signal

#### UTILITY ROOM

Equipment: Pertable sterilizer • Utensil sterilizer • Het plate • Clock

Communications: Nurse call signal

#### CORRIDOR

Equipments Floor machine estlete • Pertable X-ray

Communications: Paging system

Lightings Night lights

Note: use silent switches throughout



#### SURGICAL

Equipments Outlets for power-driven surgical instruments • Outlets for pertable operating light • Sterifizors • Instrument sterifizors • Stanket warmer • Clock • Elapsed time Indicator • X-ray viewing cabinet • Conductive flooring

Communications: Foot-operated surse call

Lighting: High level general illumination • Operating light

Note: observe code requirements for hazardous locations and NFPA Builletin 56

#### OUTPATIENT AREA

Equipments Instrument sterilizers • Utenell sterilizers • Dental chairs • Portable X-ray outlets

Communications: Waiting room call system • Doctor-Nurse call systems

Lightning: Outlets for examination lights • filumi-

Note: emergency operating room (see Surgical)







STAND-BY GENERATING PLANT



#### LABORATORIES

Equipment: A-C outlets • D-C outlets • Voltage regulators • Hoods with light and exhaust • Drying cobinets • Centrifuges • Hot plates • Water baths • Cold room refrigeration

Note: Use waterproof outlets in animal rooms

#### FOR A HOSPITAL

#### SPECIAL ELECTRICAL REQUIREMENTS

iquipment: X-ray department: Guerestopy, radio-prophy, therapy, dark room, viewing room + Radioactive therapy • Oxygen system clarm • Central EKG system • Hydro-therapy equipment • Physical herapy equipment • Sterile ray lamps • Electro-herapy • Diethermy • Short-wave therapy • Martuary refrigerator

Lightingt Solarium lighting

Note: incubators an emergency system







#### ADMINISTRATION

(See Article 2 on "Office Buildings," Architectural Record, March 1954)



#### **BUILDING UTILITIES**

Equipments Beller plant - Mydraulic systems - Air conditioning and vontilation systems - Unit besters - Equipment clarms - Outlets for floor maintenance mechines - Compressed oir system - Elevators -Fire pump . Water cooler outlets

Lighting: Purking area illumination



#### COMMUNICATIONS

Doctors' register system - Doctors' paging system Nurse call system . Entrance call system . Ambulance cell system . Clock system . Fire alorm system • Departmental Intercommunication systems Tolautograph system • Tolevision antenna system
• Multichannel broadcast distribution system •
Chapel microphone pick-up • Closed-circuit tolevision system for surgical demonstrations • Tolephone outlets, jacks, booths • Preuments tube system • Clinical records convoyer system



#### LAUNDRY

Equipment: Tymbiers • Washers • Extractors Flat irons . Manual trees . Starch cooker . Air compressor · Exhaust ventilation

Note: watch heavy inrush current of laundry equip-



#### CENTRAL KITCHEN

Squipment: Ranges • Fryers • Ovens • Food warmers • Coffee urns • Mixers • Peelers • Food cutters • Slicers • Het plates • Teasters • Egg beilers · Ice cream cabinets · Ice flake machine · Water tooler . Compressors for walk-in refrigerators . Unit coolers for walk-in refrigerators . Garbage refrigerator · Dish washer · Glass washer · Sterilizer . Hoods with exhaust and light . Heated food cart outlets . Photo-electric door operators . Conveyers to dumbwaiters

Lighting: Light for walk-in refrigerators

#### PLANNING OF ELECTRICAL SYSTEMS: HOSPITALS

#### Other System Characteristics

Equipment and materials used in the electrical systems of hospitals should be of the very best quality to insure reliability of operation and durability. The very nature of the hospital as an institutional building demands that more than casual attention be given to clean, finished appearance of electrical items. This condition, of course, helps to promote cleanliness in the housekeeping.

Many hospitals, having only limited funds available, start off by building only part of the ultimate building project. Therefore, their electrical systems should be designed to permit future expansion with a minimum of change to existing systems.

Flexibility is normally not too important since the complexity of a hospital requires a definite space permanently assigned to each piece of equipment.

#### Lighting of Patients' Rooms

Illumination of the patient's room, simple as it may appear on the surface, has given rise to a great deal of discussion, and opinions are still divided as to the best method. Basically, there should be low-level, restful, even, general illumination throughout, with higher levels available for reading, examination and at the lavatory. General illumination can be achieved by:

- Pendant mounted, incandescent, indirect units where excessive brightness either on the fixture or on the ceiling must be avoided
- 2. The upward component of a fixed "hospital bed light"
- 3. The upward component of a portable floor lamp
- 4. Cove lighting

The reading and examination light can be a:

- Permanently wall-mounted hospital bed light
- 6. Clamp-type bed light
- Bed light with a permanently wallmounted base, but light unit removable for examination
- 8. Portable floor lamps.

The above types of lighting should be augmented by a glare-free light source over the lavatory.

In private and semi-private rooms a

floor lamp will add toward a homelike atmosphere. The night light should be placed so that it will not cause grotesque shadows from the legs of beds or chairs. Switching should be done by noiseless mercury switches. The nurse will switch general illumination and night light from the door. The patient should have control over his reading light. Lights in corridors should be located so that they will not be visible to any patient in bed with the room door open.

#### Call and Register Systems

The nurse call system is operated by the patient at bedside or at the toilet. A dome light over the room door, an annunciator at the nurse's station, and a light and buzzer signal in the pantry and utility room are actuated. A more expensive system provides, in addition to the above, voice communication between patient's bedside and nurses' station.

A further refinement consists of a scanning device which will pick up sounds from each room in rotation for about ten seconds at a time. In this manner the nurse can be kept informed of conditions in each room without leaving her station.

The doctors' paging system can be a voice, chime or visual flasher system. If a voice paging system is installed, its disturbance can be reduced by employing numerous low-volume loud-speakers.

A new system is now available; it is a radio-call system. The doctor carries a miniature radio receiver in his pocket which picks up a signal broadcast by a local hospital transmitter.

Another possibility of a paging system arises from the use of an electronic clock system, wherein impulses are carried throughout the electrical system and can be picked up with a suitable device through any convenience outlet.

The doctors' register system consists of a register board at each main entrance and at the telephone switchboard. A doctor entering will close the switch opposite his name. This will cause his name to light up at each register board. The telephone operator can cause the doctor's name light to keep flashing on and off to call his attention to a waiting message. This is known as the recall feature.

#### Fire Alarm

The fire alarm system should be of the pre-signal type. In this manner the first alarm turned in will sound only at predetermined stations where responsible persons can check the extent of the fire before deciding whether to turn in a general alarm. The latter should activate chimes rather than loud gongs in order to minimize excitement in patients' quarters.

#### Communications

For patients' entertainment, hospitals often provide a multi-channel broadcasting system. This consists of receivers for AM and FM broadcasts, a record turntable and the equipment required to distribute to each bed, through wires in conduit, three or four selected programs. Each patient has an under-pillow speaker and a program selection switch. The conduit for this system can also be used to distribute the co-axial cable to each room from a television master antenna system.

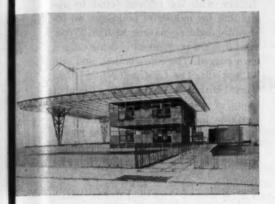
The telephone outlet at the patient's bed should be suitable to receive a jack rather than a permanent connection. In this manner a telephone can be plugged in when desired, resulting in telephone charges to the hospital being lower than if all outlets had phones permanently installed.

#### X-ray Equipment

A study of the accompanying chart will reveal a large number of items requiring special, complicated wiring. Such wiring must be designed in close coordination with the various equipment manufacturers. This is especially true of the X-ray department. A layout based on one manufacturer's equipment will be unsuitable for another. Of common importance for X-ray equipment are the following:

Stable voltage for radiography is highly important because voltage fluctuation during exposure may require a re-take. In X-ray therapy stable voltage is necessary to control penetration and dose reliably. Therefore, separate feeders and sometimes even separate transformers are required. These feeders should be oversized to minimize voltage drop. X-ray wiring requires a separate ground conductor. Manufacturers' recommendations should be observed.

#### SPACE FRAME for Laboratory Bolted Together for Flexibility



Space frame construction, a method of building strong, light roof frameworks by introducing a third dimension of reinforcement, is being used in the Research Laboratory of the College of Architecture and Design of the University of Michigan. Designed by a research staff under the direction of C. Theodore Larsen, Professor of Architecture, the structure will be "durable, flexible, expandable, demountable and reusable," with a roof which can be extended indefinitely and walls which can be shifted to enclose more space.

The space frame utilizes diagonal struts which permit stresses to be distributed in three directions. The diagonals connect horizontal lattices at the roof and ceiling, zigzagging back and forth to form a steel network which can absorb loads far in excess of the strength of its individual parts. As a result, supporting columns are needed only at widely spaced intervals. Enclosed areas beneath the overhanging roof can be enlarged or reduced with ease, since the interior walls carry none of the roof load.

Intended as a temporary structure, the laboratory will have a framework made up of standard 4-ft steel struts and connecting plates, which will be bolted together in an area adjoining the Architecture Building. Materials have been pre-planned and pre-cut at the plant of the Unistrut Corp., which cooperated with the University in research on the space frame. Panels, 4 ft by 4 ft, many of transparent and translucent plastic, will make up the walls, ceiling, floor and roof. Construction work, much of it experimental, is being done by architectural students.

#### PLASTICS | Conference Will Consider Their Applications in Building

"Plastics in Building" is the subject of a two-day conference - the first of its kind - for architects, engineers, designers, builders and manufacturers, to be held the 27th and 28th of this month at the National Academy of Sciences in Washington, D. C. The meeting will feature seven technical sessions and is sponsored by the Building Research Advisory Board, the Society of the Plastics Industry and the Manufacturing Chemists' Association.

Authorities on plastics from the architectural and engineering professions and the plastics, chemical, construction and manufacturing industries will discuss structural parts of buildings, glazing, walls and partitions, ceilings, roofing, flooring, ductwork and insulation. (Turn the page for some recent product developments in plastics.)

In an advance summary of his paper on the future of plastics, Johan Bjorksten, of Bjorksten Research Laboratories, remarks that the chief contribution of plastics in building is saving of time and weight. Freedom from corrosion and decorative effects are important secondary advantages, he says. Mr. Bjorksten states that just as steel reinforce-

ment has revolutionized the use of concrete, so have glass and other fibrous reinforcements given plastics high structural qualities with minimum weight. He predicts that foamed wall techniques may lend themselves to mass production of entire hulls of dwellings.

Professor Albert G. H. Dietz of M.I.T. feels that plastics will find increased engineering applications in building as a result of several new trends in design and construction: growing use of shop-made units, assembled in the field; emphasis on the open plan, and the trend toward open, light-transmitting walls and roofs.

Titles of the discussions are:

Kinds of Plastics; Engineering and Design with Plastics; Evaluating Plastics for Building Application.

Light Transmitting Panels; Glazing and Interior Illumination; Thermal Insulators and Vapor Seals; Structural Panels; Surfacing and Decorative Uses; Piping: Plastic Ducts.

Standards for Plastic Products; Building Codes.

Future of Plastics in Buildings; Round-Table Discussion of Future of Plastics in Buildings.

#### ROUND FOOTINGS for Heavy Loads Cut Excavation and Form Costs

Round reinforced foundation footings - which can offer economies over the conventional type of reinforced spread footing by reducing excavation and eliminating forms, mat footings and backfilling - have been placed for the Pennsylvania Railroad's new Samuel Rea Freight Car Repair Shops, now under construction in Holidaysburg, Pa.

Pennsylvania Railroad's engineering department specified round reinforced footings to support a 6- to 8-ton per sq ft bearing load, the heavy live load of the 90-ft cranes which will run the length of the building, and the heavy wind load which will result from the building being open at both ends.

The new repair shops, which will be about a half-mile long, will be built over a river bed which was filled initially 30 years ago and again a few years ago. The 457 round footings were sunk into the river gravel strata to a depth averaging 19 ft and varied from 4 to 5 ft in





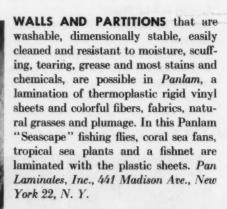
diameter. The holes were dug by a foundation borer, consisting of a digging bucket with mounting. The digging bucket was positioned over a starting ring (picture left), and after the digger was removed and the reinforcing steel cage placed, concrete was chuted into the hole (right).

(Continued on page 236)

Materials / Equipment / Furnishings / Services

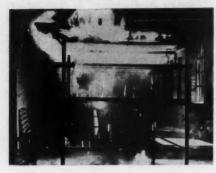
#### SOME NEW PLASTICS FOR BUILDINGS

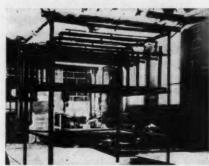
ROOFING An asbestor-plastic material is used in Fire-Chex Vapor Barrier for preventing the spread of fire in built-up roofs. When subjected to flame or intense heat, the plastic compound will not melt or flow, but instead forms a skeletal mat that remains in place and so blocks melted bitumen from flowing through joints in the deck. The picture on the top shows the dripping of burning asphalt and the burning of gases on the underside of a conventional-type roof over steel deck in a fire test at the Carey Research Laboratories in Cincinnati. On the bottom, there is no drip and only slight burning of bases under the steel deck on which has been placed a layer of Fire-Chex Adhesive covered by Fire-Chex Vapor Barrier sheet. Fire-Chex sheets are made in rolls 38 ft long and 36 in. wide, which weigh approximately 60 lb. The Philip Carey Mfg. Co., Cincinnati 15, Ohio.



CEILINGS that are decorative as well as sound absorbent are made with panels formed of translucent Bakelite vinyl rigid sheet. Uniform light is provided by diffusion through suspended 24-in. panels, supported by a flexible "T" suspension system to form either entire or partial ceilings. The panels are reported to be durable and to permit easy servicing of lights. Daylight Ceiling Co., 1250 17th St., San Francisco 7, Calif.







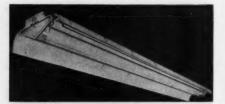
PIPING in plastic is supplemented by valves which are made of a lightweight styrene copolymer called Uscolite, produced by U. S. Rubber Co. The 3-in.diameter rubber-plastic valve body to the left in the picture makes possible corrosion-resistant and non-contaminating piping systems of greater capacity than ever before for handling food products, sensitive chemical solutions and acids. Hills-McCanna Co., Chicago,



GLAZING is one of many applications of this flat Fiberglas reinforced polyester resin translucent material. Plexolite, also useful for awnings, skylights and translucent ceilings, can be sawed and drilled to any size, thus eliminating the waste which often results from standard lengths. It is available in rolls 65 ft long and 24 in. wide, which weigh only 60 lb. Widths from 12 to 40 in. are available, and a range of 15 colors. Plexolite Corp., 2051 East Maple Ave., El Segundo,

#### Industrial Luminaire Has 25 Per Cent Uplight

In line with the current trend to uplighting for industrial buildings, an industrial lighting fixture with a 25 per cent upward component is being offered in a rugged-type construction, and still at low cost, The Lifetime CFI-25 is furnished with full 8-ft reflectors instead of pairs of 4-ft reflectors. The reflecting surfaces, finished in white porcelain enamel, have a reflection factor of 85 per cent or more, according to the manufacturer. The improved lighting for more comfortable working conditions is supplied without any sacrifice of the strength and rigidity which are essential in an industrial fixture. The uplighting apertures are die-embossed, and ribbed construction reinforces lateral strength to prevent the reflector from spreading and getting out of alignment. A longitudinal "V" center louver provides 30° crosswise shielding and reinforces lengthwise





rigidity. The CFI-25 is available with or without hinged louver assembly. Another fixture in the CFI series is the CFI-10, which has 10 per cent uplighting. Day-Brite Lighting, Inc., 5411 Bulwer Ave., St. Louis 7, Mo.

#### **Light Control for Homes**

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(Continued on page 252)

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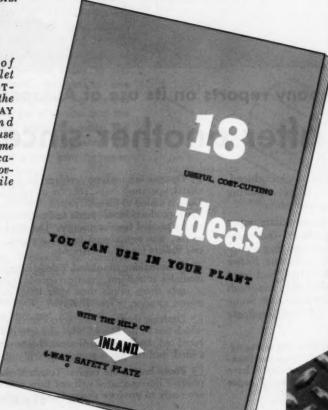
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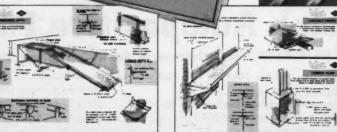
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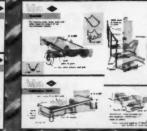
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#### ENGINEERED WOOD DESIGN - 1: STRESSED-SKIN PLYWOOD PANELS

By William J. LeMessurier and Albert G. H. Dietz\*

#### Stressed-Skin Panels

The drawings on this and the following pages present cross sections of stressed-skin plywood panels for floors and roofs of houses. A panel consists of a bottom face of ¼-in. 3-ply plywood, four joists and two headers, and a top face of ¾-in. 5-ply or ¾-in. 5-ply plywood. All panels use standard 4-ft-wide plywood with the face grain parallel to the joists. The lengths of the panels are variable, the maximum safe length being given in each case as a function of loading.

#### Structural Characteristics

In its structural action a stressedskin panel is similar to a wide-flange steel beam. The top face carries compressive stress and the bottom face tension. Due to the tendency of the top and bottom faces to slip horizontally with relation to one another, important shearing stresses exist between the plywood and the joists and also within the joists. The only practical way to transmit this shear is by a glued joint between plywood and joists.

The top face of the panel has additional stresses resulting from slab action since it must carry local loads between joists. When the top face serves as a floor with only an asphalt tile, linoleum or carpet covering, it must be ¾ in. thick to carry local loads up to 250 lb without excessive deflection. For roof construction not intended for use as a deck and for floors where a finish hardwood floor is laid over the plywood, a ¾-in.-thick top cover is satisfactory.

#### **Gluing Technique**

To obtain satisfactory glued joints pressure must be applied along the glue line. The best technique, obtainable only in a shop, is to use presses to apply a pressure of 150 lb per square inch of contact area uniformly along the entire glue line. For those panels with narrow joists

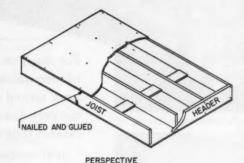
of 25/32 in. this method must be used. An alternative method is to use nails to provide pressure. To provide proper pressure 6d common nails at 2 in. on center must be used for 1/4-in. plywood, at 3 in. on center for 1/8-in. plywood and for 3/4-in. plywood 8d common nails at 5 in. on center are required. Sufficient pressure will be achieved by nailing when a uniform squeeze-out of the wet glue along the juncture of plywood and joist or header is visible. This nail-gluing method is satisfactory for all panels with joists 15/8 in. wide.

The glue employed is extremely important. For panels which are not

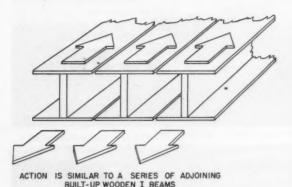
exposed to weather or high relative humidities, casein and urea resin glues will provide satisfactory bonds. For panels exposed to moisture, a highly moisture-resistant adhesive such as resorcinol formal-dehyde or, with heated presses, phenol formaldehyde resins and melamine formaldehyde resins may be employed.

#### **Framing Details**

There are no unusual requirements in framing details for plywood panels. In general these panels may replace ordinary joist construction. The only unusual problem is the joint between panels. In floors with-



The Time-Saver Standards in this issue provide, for the first time in any architectural magazine, tabulated solutions for designs of stressedskin plywood floors and roof panels with commonly encountered spans and loads



HEADERS MAINTAIN
LATERAL STABILITY

JOISTS ACT BOTH AS JOIST AND WEB OF UNIT

PLYWOOD AT BOTTOM
TAKES TENSILE STRESSES

<sup>\*</sup> Assistant Professor and Professor, respectively, in the Department of Civil and Sanitary Engineering, Course in Building Engineering and Construction, Massachusetts Institute of Technology.



St. Francis Hospital, Lynwood, Cal.



The Upjohn Company, Kalamazoo, Mich.



Hotel Dieu, New Orleans, La.

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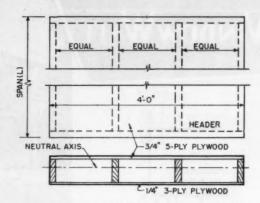
#### TIME-SAVER STANDARDS

#### ENGINEERED WOOD DESIGN -2: STRESSED-SKIN PLYWOOD PANELS

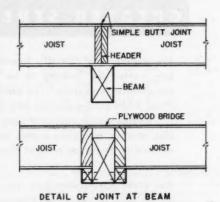
By William J. LeMessurier and Albert G. H. Dietz

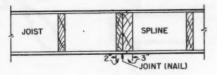
out finish wood a spline joint should be provided to prevent uneven deflections. In other cases panels may be simply butted together.

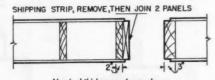
For panels longer than 16 ft, the plywood faces must be spliced, since plywood is not obtainable in longer sheets. These splices should be located at a point not more than one quarter of the span from the ends of the panel for joist depths of 6 in. or less and not more than one third of the panel length from the end for joist depths greater than 6 in. The splice may be made with a strip of plywood 10 in. wide of the same thickness as the plywood joined, and glued under pressure.



PLAN AND SECTION OF TYPICAL PANEL







SPLINE DETAIL
(METHOD OF JOINING TWO ADJACENT PANELS)

#### Design Specifications:

Exterior Douglas Fir Plywood Grade A-B Top panel: ¾-in. 5-ply plywood Bottom panel: ¼-in. 3-ply plywood No. 2 Structural Douglas Fir Joists

#### Design Data:

250 lb point load or 40 psf distributed load 10 psf dead load Maximum deflection: 1/300 for full load 1/360 for live load

#### FLOOR PANELS (HEAVY)

#### JOIST DEPTH-SPAN TABLE

Floor Panels for Use with Composition or Cork Flooring or Carpeting
(Without Finished Wood Floor)

FH14
FH16
FH24
FH26
FH28
FH210
FH212

		Maximum Span Limited by		,		
Туре	Joist	Deflection	Stress	in 4/ft of width	Glue	
FH14	25½" x 3¾"		7' 2"	25.0	Pressure	
FH16	25/2" x 55%"		11' 4"	59.4	Pressure	
FH24	15%" x 35%"	11' 9"	14' 0"	29.0	Nail	
FH26	1%" x 5%"	16' 0"	18' 6"	72.5	Nail	
FH28	136" x 71/2"	19' 10"	22' 8"	136.8	Noil	
FH210	136" x 91/2"	23′ 8″	27' 0"	235.6	Nail	
FH212	156" x 111/2"	27' 8"	31' 2"	372.0	Nail	



ORGONAL PRESTRETAR

PLAINWELL, MICHIGAN

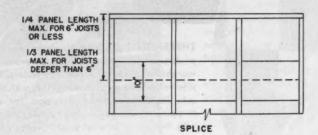
A SUBSIDIARY OF MUELLER BRASS CO. • PORT HURON, MICHIGAN

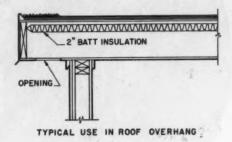




#### ENGINEERED WOOD DESIGN - 3: STRESSED-SKIN PLYWOOD PANELS

By William J. LeMessurier and Albert G. H. Dietz





#### FLOOR PANELS (LIGHT)

#### JOIST DEPTH—SPAN TABLE Floor Panels for Use with 1/6-in. Finished Wood Floor

		Maximu Limite		1	
Туре	Joist	Deflection	Stress	in 4/ft of width	Glue
FL14	25/m" x 35%"		9' 5"	18.06	Pressure
FL16	25/2" x 55%"		13' 4"	44,4	Pressure
FL24	156" x 356"	10' 7"	12' 6"	21.0	Nail
FL26	1%" x 5%"	14' 6"	16' 5"	55.0	Nail
FL28	156" x 71/2"	18' 4"	20' 2"	107.2	Nail
FL210	156" x 91/2"	22' 2"	23' 9"	189.5	Nail
FL212	1%" x 11½"	25' 11"	27' 7"	305.0	. Nail

Note: Type designations: R stands for roof panel; FL stands for a floor panel with a light (thin) top layer. The first number is the joist thickness in inches; the second number or pair of numbers is the joist depth in inches. For example, R210 is a roof joist 2 in. thick and 10 in. deep. FL14 is a light floor panel having joists 1 in. thick and 4 in. deep (all nominal dimensions).

#### Design Specifications:

Exterior Douglas Fir Plywood Grade A-B Top panels 1/4-in. 5-ply plywood Bottom panels 1/4-in. 3-ply plywood No. 2 Structural Douglas Fir Joists

#### Design Data:

250 lb point load or 40 psf distributed load 10 psf dead load Maximum deflection: 1/300 for full load 1/360 for live load

#### **Design Specifications:**

Exterior Douglas Fir Plywood Grade A-B Top panel: 1/4-in. 5-ply plywood Bottom panel: 1/4-in. 3-ply plywood No. 2 Structural Douglas Fir Joists

#### Design Data:

18 12 P

20, 30, 40 psf distributed load 15 psf dead load Maximum deflection: 1/240 for full load

#### **ROOF PANELS**

#### ROOF JOIST-SPAN TABLE

#### Roof Panels for Use with Insulation, Tar and Gravel or Shingles

		Maximum Span Limited by							÷
		Defl.	Stress	Defl.	Stress	Defl.	Stress	1	Glue
Туре	Joist	Live Load 20 psf		Live Loc	Live Load 30 psf		ed 40 psf	in 4/ft of width	type
R14	25/2" x 35%"	12' 3"	13' 1"		10' 2"		8' 4"	18.06	Pressure
R16	21/2" x 51/6"	16' 7"	18' 0"		14' 10"	*****	12' 2"	44.4	Pressure
R24	156" x 356"	12' 10"	14' 10"	11' 10"	13' 1"	11' 1"	11' 11"	21.0	Nail
R26	156" x 556"	17' 10"	19' 8"	16' 4"	17' 5"	15' 4"	15' 8"	55.0	Nail
R28	156" x 71/2"	22' 3"	23' 11"	20' 5"	21' 2"	19' 1"	19' 2"	107.2	Nail
R210	1%" x 91/2"	26' 11"	28' 5"	24' 7"	25' 2"	*****	22' 10"	189.5	Nail
R212	156" x 111/2"	31' 5"	32' 10"	28' 11"	29' 2"	*****	26' 5"	305.0	Nail



TRIM AND DECORATIVE SHAPES sections available in the stocks of Alcoa Aluminum distributors have many architectural uses. Glazing members, door edgings and jamb sections, interior moldings and pilasters have the crispness of edge and cleanliness of surface which will stay that way under long use.

A new fascia system is available which has specially designed terminal members and in which all fasteners are concealed. The soft highlights of its radii and the delicate shading of the slightly concave contours of its raised elements produce a wall surface of great interest and dignity. It is especially suited to large walls and framing trim where its distinctive texture can get full play under varying light.

THRESHOLDS of Alcoa Aluminum, designed to meet the varie problems which arise in the floor areas at entryways, are in warehouse stocks of Alcoa distributors. Types applicable to a side entries are available together with those designed for interuse. The former have provision for accommodating weak stripping as well as compensation for the changes of level occum with the use of interior floor coverings such as linoleum, resilie or carpet. Tread patterns are designed to minimize shazards. The length of sections stocked gives the designer grefreedom in setting the width of accessways.

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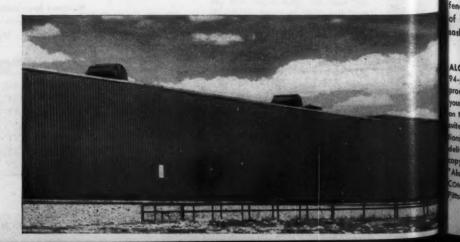
RAILINGS of Alcoa Aluminum are among the earliest applications of aluminum to architectural use. The selection of railing sections in stock at your nearby Alcon distributor permits their adaptation to any architectural treatment. The soft, lustral surface of the metal is pleasing to the eye and to the sense of touch.

Where the major consideration of safety is combined with the ability to start up under severe use, Alcoa offers a pipe-railing system in two sizes of pipe and flush fittings. Designed to meet the most rugged railing requirements at a reason ble cost, the system provides speed of erection and a crisp, clean, projection-free railing—easy to maintain.

# FOR DESIGN FLEXIBILITY STOCK AVAILABILITY FABRICATION ECONOMY

SHEET METAL PRODUCTS of Alcoa Aluminum can be used to channel and dired warm and cold air, to reflect light and heat, to cover, to protect and to embellish The range of sheet sizes, thicknesses, alloys and tempers in Alcoa Aluminum distributor stocks gives the designer a selection for any use. Specially processed forms a sheet include Alumilite\* sheet for attractive appearance, lighting sheet for illumination problems, tread plate for special flooring requirements and patterned sheet for surface decoration. Corrugated sheet is available for complete roofing and wall system with all necessary accessories.

\*Trade-Name of Aluminum Company of Ameri



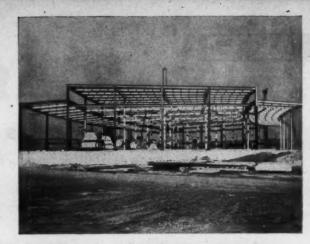


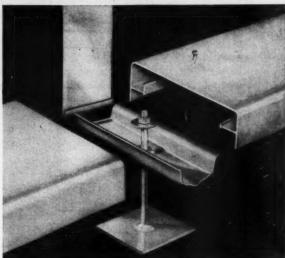
TUBE AND PIPE of Alcoa Aluminum are readily available in a wide range of sizes, cross sections and wall thicknesses from your local Alcoa distributor. Tubing of square, rectangular or circular cross sections has a wide variety of applications in special architectural details such as decorative partition screens, railings and lighting fixtures; for light structural systems such as flexible exhibition and shelving units and for light load bearing columns and posts. Alcoa's tube and pipe give the architect a medium for flexibility of design.

STRUCTURAL SHAPES of Alcoa Aluminum are increasing in usage in commercial, industrial and residential buildings. There is mounting appreciation among designers that aluminum members can do both a structural and a decorative job. Good surface integral with structural strength leads to economy through simplified design and erection since structural members may stand exposed without need for concealment by facing materials.

Exposed or concealed, structural aluminum requires little maintenance. The dimensional accuracy, workability and ease of handling have a strong appeal to the fabricator.

COPINGS AND GRAVEL STOPS, engineered by Alcoa, including all necessary accessories, are available and ready for assembly from our warehouse stocks. Weather protection, positive joint drainage, more adequate anchorage and greater strength features have been designed into these outstanding new assemblies.





# ALCOA® ALUMINUM ARCHITECTURAL STOCKS

WINDOW SILLS of Alcoa Aluminum are a popular choice by architects for weather protection of masonry joints, maintenance-free service, attractive appearance and adaptability to various opening conditions.

A wall opening requires one of two sill applications:

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A unit sill or a continuous sill. Alcoa's Type C sill is designed as a unit sill for openings of not more than six feet in width. It is best secured by using the lug method of installation. Alcoa's Type AA sill is suitable as either a unit sill for openings up to 20 feet wide or as a continuous sill for openings over 20 feet. It is set by means of anchor clips which are attached to the supporting wall at maximum intervals of three feet. The Type AA sill suggests a new concept of fenestration. It opens up fresh possibilities for wall treatment by permitting use of fixed glass and opaque wall facing on the same plane with movable tash elements.

ALCOA ARCHITECTURAL STOCKS, a complete 94-page catalog of the standard architectural products of Alcoa Aluminum, is now available from your local distributor. It gives the complete details on the complete range of Alcoa Aluminum products award for a wide variety of architectural applications which he carries in his stocks for immediate delivery. Call your local Alcoa distributor for your copy loday. You'll find his number listed under 'Aluminum" in your classified directory. ALUMINUM COMPANY OF AMERICA, 1888-K Alcoa Building, 'Ithburgh 19, Pennsylvania.



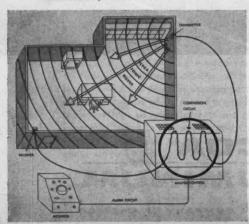




#### FIRE SAFETY IN BUILDINGS

Figures have been published by the National Board of Fire Underwriters, in conjunction with the 35th Annual Fire Prevention Week, indicating that the number of fires has decreased sharply in proportion to the amount of new construction during the past dozen years. Some new literature which relates to fire prevention and fire safety measures is listed below.

- · Permalite Lightweight, Insulating, Fireproof Concrete Roof Deck Specification Manual is a 218-page working handbook in a looseleaf binder, thoroughly indexed and tabbed at the sides and bottoms of pages for quick reference. The manual contains complete specifications on Permalite concrete for use in all usual roof deck construction, with different types of ceilings, and tables on slab thicknesses, strengths and insulation factors for all recommended mixes. By reference to the manual, the architect, having selected one or two roof types having the desired insulating value, can proceed with detailed engineering and cost calculation. It is the time-saver in that it eliminates the task of calculating the over-all U factors for combinations of various materials. Perlite Div., Great Lakes Carbon Corp., 612 So. Flower St., Los Angeles 17, Calif.\*
- Safety discusses safe practices in setting up, adjusting, using and shutting down of oxyacetylene and arc welding equipment. Sketches illustrate not only safe practices but also some of the malpractices in a field which presents a serious fire hazard. 32 pp, illus. Air Reduction Co., Inc., 60 East 42nd St., New York 17, N. Y.
- Detection equipment employing ultrasonic sound waves, which is designed for burglar protection but which also reports a warm air movement above a flame or the rupture of a sprinkler pipe or steam line, is described in Kidde Ultrasonic Alarm Systems. 12 pp, illus. Walter Kidde & Co., Inc., Ultrasonic Div., Belleville 9, N. J.



• Five new booklets on fire safety have been published by the National Board of Fire Underwriters:

Fire Hazards and Safeguards for Metal-Working Industries points up the increasing incidence of fires in what is considered a fire-safe industry. 57 pp, illus.

Fire Safe School Buildings suggests ways and means for obtaining fire safety in new and existing school buildings. 21 pp, illus.

Your Fire-Safe Home, in a revised edition, outlines the elements of fire safety in the home.

Your Farm and Fire Safety tells how to overcome many dangerous fire hazards in farm construction.

Suggested Ordinance on Existing Buildings Used or Converted for Use as Nursing, Convalescent and Old Age Homes is offered for adoption as an amendment to appropriate portions of a building code. 7 pp. National Board of Fire Underwriters, 85 John St., New York 38, N. Y.

- For Complete Fire Protection, Catalog L-154, includes specifications for centrifugal fire pumps, centrifugal booster pumps and tank filling pumps and includes a guide for writing a fire pump specification. Economy Pumps, Inc., Div. of C. H. Wheeler Mfg. Co., 19th and Sedgley Ave., Philadelphia 32, Pa.
- A new Component Parts Catalog GEC-1025 contains complete information on circuit breakers, disconnect switches, open knife switches and component parts used in switchboards and panelboards for protection against circuit overloading, a serious consequence of which often is fire. 100 pp, illus. General Electric Co., Trumbull Components Dept., Plainville, Conn.\*
- DPS Masterplate describes an "ironclad" concrete floor surface which is "a precaution against loss of life, property and production from fire and explosion caused by static and mechanical sparks." 12 pp, illus. The Master Builders Co., 7016 Euclid Ave., Cleveland 3, Ohio \*

#### HOSPITALS

- Hospital Fire Safety includes extracts from previously published fire reports, up-to-date revisions of NFPA standards pertinent to hospitals, a new statistical analysis of hospital fires and other material needed for reference in connection with hospital fire hazards, structural features and planning of improvements. 176 pp, illus. \$2.50. National Fire Protection Assn., 60 Batterymarch St., Boston 10, Mass.
- Maysteel Hospital Casework presents designs and construction details of standard steel hospital units, with sections on accessories and typical room layouts. 86 pp, illus. Maysteel Products, Inc., 740 No. Plankinton Ave., Milwaukee 3, Wis.

#### ALUMINUM

• The Aluminum Association Alloy Designation System for Wrought Aluminum presents a new system of designations which will go into effect on October 1. Consisting of four-digit numbers, the new system is expected to meet all of the industry's present and future needs for wrought alloys. The Aluminum Association, 420 Lexington Ave., New York 17, N. Y.

#### FORMING, BENDING ALUMINUM

• Forming and Bending Kaiser Aluminum gives comparative data on various types of forming and bending equipment, characteristics of specific alloys and their suitability to particular operations, comparisons of methods and technique suggestions to solve specific production problems. 272 pp, illus. Kaiser Aluminum & Chemical Sales, Inc. (Technical Editor), 919 No. Michigan, Chicago 11, Ill.

#### FLOOR TILE

• A new catalog for KenFlor, the most recent Kentile vinyl tile floor product, illustrates the tiles in 12 colors and explains how they are installed. Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y.\*

\*Other product information in Sweet's Architectural File, 1954.

(Continued on page 306)

### **Build Better with**

### IBRAPAC Block



# for magnificent INTERIORS, too! EVERLASTINGLY beautiful

Vibrapac Block, used extensively for exteriors of buildings, is equally adaptable to interiors.

No other building material commands greater respect. In homes, and other structures, large or small, you know the colorful beauty, unique texture and ruggedness of Vibrapac Block is everlasting. Here is modern, practical, permanent construction that reflects good judgment and wins prestige.

#### plus unequalled Low Cost and many other advantages

Obviously, Vibrapac Block are firesafe and stormsafe, vermin and rodent proof. They insulate effectively against heat and cold . . . have great acoustical and soundproofing qualities . . . assure maximum economy in both first cost and maintenance cost.



Vibrapac Block are produced only on BESSER Automatic High-Production Block Machines. There's a plant in your area equipped to produce Vibrapac Block in a variety of styles, sizes and colors. Ask for literature and other helpful data, or write directly to Besser Mfg. Co., Box 173, Alpena, Michigan, U.S.A.



For the industrial lighting value of your lifetime

# See! Examine! Compare! THE NEW LIFETIME CFI SERIES



FULL 8-FOOT PORCELAIN REFLECTORS! An exclusive Lifetime CFI feature! Competitive fixtures give you two 4-foot reflectors to form an 8-foot section — twice as many pieces to handle during installation, twice as many joints to interfere with alignment of runs. Another exclusive: every square inch of reflection surface is finished in snowwhite Lifetime porcelain enamel. Apertures die-embossed for strength and appearance.

Day-Brite announces the sensational new CFI-25 with 25% upward component and the CFI-10 with 10% upward component—both with important new features that promise a lifetime of unparalleled lighting performance.

From Day-Brite, the pioneer, came many of the early developments in uplighted industrial fixtures.

Now – from Day-Brite, the leader, comes a great new advancement in industrial lighting – the new Lifetime CFI series.

Today, the CFI-25 brings you all the desirable comfort benefits of 25% uplighting within a practical price range.

This is a goal sought by many in the

lighting industry. A few manufacturers have actually marketed 25% uplighted fixtures. Until now, none had succeeded in keeping fixture costs within reasonable limits.

Day-Brite—and only Day-Brite—offers you advanced visual comfort for industry at an economically justified price. If you can afford *any* industrial lighting, you can now afford the lifetime benefits of the finest fixtures ever to reach the market.

#### See! Examine! Compare!

**CFI-25 REFLECTOR SUPPORTS 358 POUNDS!** Here's a rugged test for any reflector. Supported only at its extreme ends, the 8-foot CFI-25 reflector remains perfectly straight and rigid bearing the full weight of a 358-lb. man—no bend, no sag, no spread. That's because new ribbed construction reinforces lateral stability and a longitudinal "V" louver reinforces lengthwise rigidity (and also provides comfortable 30° cross-wise shielding). These super-rigid reflectors assure straight, true alignment of fixture runs.

See! Examine! Compare!





### See! Examine! Compare!

You must see this revolutionary new industrial series yourself to appreciate the lifetime advantages it offers. Examine the CFI-25 and the CFI-10. Compare them with other industrial fixtures. Mark your calendar now to arrange a *Lifetime CFI* demonstration—and know firsthand why this new series is the industrial lighting value of your lifetime!



497

CALL OR WRITE YOUR NEAREST DAY-BRITE REPRESENTATIVE



#### STAINLESS STEEL SINK BOWLS



replacing - saves on cleaning and maintenance - stays bright and lustrous for class after class, year after year. School boards and teachers alike will always be happy with a Lustertone installation.

ELKAY Lustertone SINK BOWLS come in a wide range of sizes-single, double and triple bowl models-find innumerable uses throughout the school . . . kitchens, clubrooms, laboratories, domestic science classrooms . . . are completely seamless for utmost sanitation. SINK AND TRAY combination gives advantage of large bowl for dishwashing ... small bowl for hand washing and rinsing . . . makes a wonderful sink for kindergarten clean-up use. Modern DRINKING FOUNTAIN is another fine application of ELKAY Stainless Steel in schools.





See Sweet's

or write for complete information

#### **ELKAY MANUFACTURING COMPANY**

1874 South 54th Ave., Chicago 50, Illinois

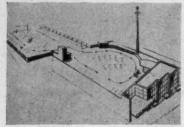
The World's Oldest and Largest Manufacturer of Stainless Steel Sinks . . . since 1920

#### ROUNDUP

(Continued from page 221)

#### **ROOF BANKING** Customers Use Speakers and Periscope Mirrors

Customers will bank by means of "Snorkels" - which are actually penthouses containing periscope-type mirrors and two-way speakers - from the roof of the State Bank & Trust Co. in St. Louis, Mo., due to open this month. Architect Bernard Bloom has utilized a sloping site so that customers will drive onto the roof from street level, stop at either of two bullet-proof penthouses and transact their business with a teller on the first floor without leaving their cars. A small, tray-like elevator will convey deposits and withdrawals from motorist to teller and back again. It is estimated that each "Snorkel" can accommodate 60 cars per hour.



Customers wanting to conduct their business inside the bank will be able to park their cars on the roof and take an elevator to the main floor. Present plans call for the roof to be floodlighted for night-time operations.

#### SCAFFOLD Jacks Raise, Then Lower to Wheels for Mobility



A rolling scaffold for building construction is raised on jacks and lowered to 4-in. wheels for moving from one location to another on the site. The 112- by 250- by 221/2-ft rolling scaffold at the site of the Western Electric Co. telephone distribution center in Pittsburgh will hold a plywood deck on which an 8-in. concrete floor will be laid. Three moves will be necessary to lay the entire 250- by 400-ft floor.

(Continued on page 241)

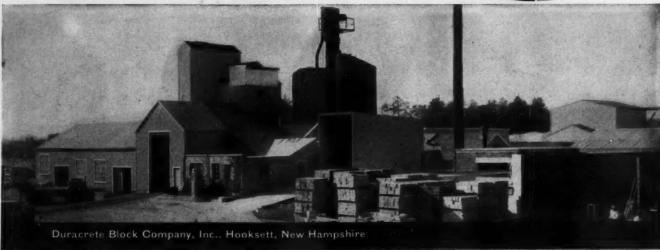
How a

Reserve Plus
Rated

Rated boiler...

production

stepped up cut fuel costs



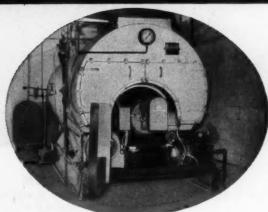
■ Anyone would find it difficult to prove to Dante V. Donati, Manchester, New Hampshire, that Kewanee Reserve Plus Rated Boilers do not pay dividends. That's because he discovered it the hard way. First, he bought an ordinary boiler for his plant at the Duracrete Block Company. He operated it one year, and then . . . but let him tell the story-

"We installed an ordinary boiler and found it to be inadequate. We then purchased a Kewanee Unit. Our production was stepped up more than 100% ... with fuel costs cut in half. Maintenance cost is extremely low. The quality of our product has improved because of lower moisture content due to ample steam for processing."

Judging from Mr. Donati's experience it just makes sense that it's money in the bank to follow the Kewanee Reserve Plus Rating Plan in selecting a boiler. So when you choose a boiler, know these important facts:

- 1-Boiler rating must be based on nominal capacity, not maximum capacity;
- 2-Boilers must have sufficient built-in reserve to meet changing demands;
- 3-Boilers must have sufficient capacity to operate at "cruising speed," not maximum speed at all times;
- 4-Like examples must be considered in comparing boilers. Don't be confused by vague technical claims.

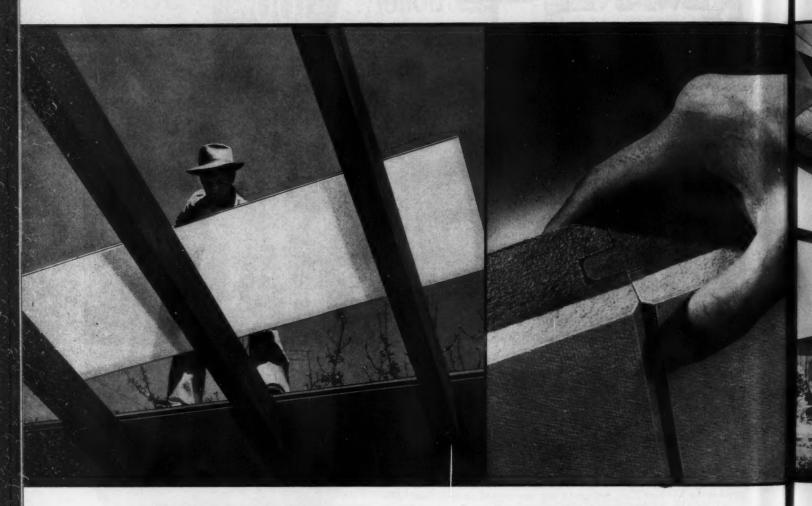
Choose Kewanee and cut fuel costs-lower maintenance-reduce breakdowns -get longer boiler life.



Here is No. 85-60 Kewanee Oil Fired Boiler-Burner Unit installed at the Duracrete Block Company.



# Now cut exposed \$80-\$300 anywhere



1. It's Roof Deck...Two by eight foot unit cuts application time as much as 45%. Only one material to handle. New Insulite Roof Deck eliminates need for separate roof boards, insulation, lath, plaster and ceiling finishing. Roof Deck can save 12 man-hours per 1000 sq. ft. of surface compared with 2"x6" D&M roof sheathing.

**2. It's Insulation**... No need for other insulation. Two-inch Roof Deck is comparable to 2" wood deck plus 1" fiberboard insulation and meets F.H.A. heat loss requirements for roof and ceiling construction. Absorbs sound better than wood or plaster—makes homes quieter and more livable. Exclusive vapor barrier protects against condensation within the unit in any climate.

INSULITE IS A REGISTERED TRADE HARK

Send for complete information now! Actual on-the-job pictures and construction details show how to use new Insulite Roof Deck to build better for less. Write Insulite, Minneapolis 2, Minn.



Build and insulate with double-duty

Insulite

The original structural insulation board

INSULITE DIVISION, Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota

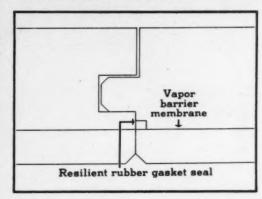
# beam ceiling costs with new Roof Deck!



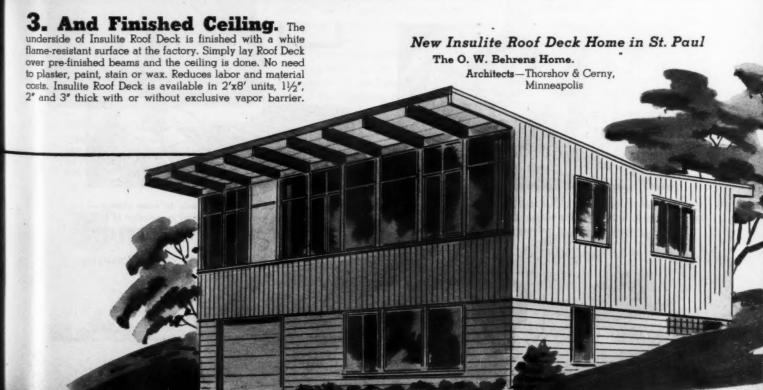
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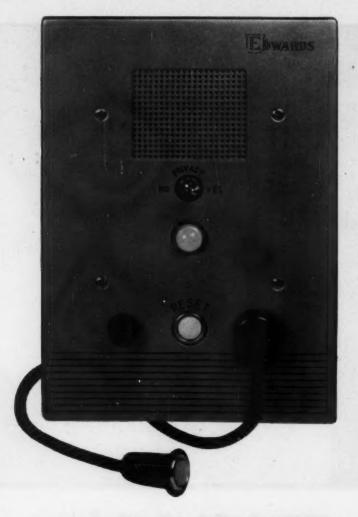
\*Insulite Roof Deck can be used in any climate



Exclusive Vapor Barrier protects against condensation within the deck in any climate. Continuous vapor barrier combines a membrane laminated into each unit, plus a rubber gasket that seals carefully machined T & G joints. (Also available without vapor barrier.)



# NEW CALL STATION SPEEDS PATIENTS' CARE



# EDWARDS AUTOMATIC RESET NURSE'S CALL STATION CUTS TRIPS TO BEDSIDE

Here's a complete system that does *triple* duty! The Edwards Nurses' Call System not only allows patient to call nurse and nurse to call patient . . . it also has the new Edwards automatic reset and privacy features. Calls are automatically reset from master station, eliminating need of nurse resetting call in patient's room. Bedside stations are provided with privacy switch or lamp — giving patient knowledge of nurse's supervision. Plug-in type construction permits instantaneous replacement, even by untrained hospital personnel.

All this . . . plus the other well known Edwards advantages: master station about half the size of most others...keys that serve two patients each... super-sensitive Stromberg-Carlson amplifier picks up slightest whisper from patient's bed. For complete information write for Bulletin HO-13, Edwards Company, Inc., Dept. AR-10, Norwalk, Conn.



Patient always has knowledge of nurse's supervision — stations in the Edwards Nurses' Call System are available with indicating light or privacy control switch.



No more running to patient's bedside to reset station—when nurse releases "talk" button after completion of call, station automatically resets... cannot be accidently reset.





SAVES STEPS, TIME, EFFORT...

**Edwards Soft Speaking** Nurses' Call System makes life easier for nurse and patient. Patient can make known her needs before nurse goes to bedside.



#### SPLIT-SECOND ACCURACY!

Every clock - one, ten or a hundred-tells precisely the same time, thanks to Edwards centrally controlled Clock and Program Systems. No Master clock is needed. Write for Bulletin "CL" or see our catalog in Sweet's Architectural File.



TRIM, MODERN, EFFICIENT:

Edwards Fire Alarms are chosen by leading architects to protect America's most important buildings.





#### ROUNDUP

(Continued from page 236)

#### FIRE PROTECTION in Buildings Stressed at M. I. T. Conference

Three general "fire faults" occur most frequently in the planning stages of all building types, stated William H. Brown, Associate Professor of Architecture at M.I.T. and one of the speakers at a Fire Protection Engineering Conference at M.I.T. from August 17 to 19. In his discussion of "Liaison in the Planning Stage," Prof. Brown categorized the three faults as: (1) lack of foresight about fire hazards; (2) lack of information in the planning stages, stemming from poor liaison; (3) lack of a planned and effective administration of basic fire prevention principles.

Much stress was placed on the importance of considering the threat of fire in planning exits, ventilation, water supply, space separations, vertical openings, materials and, of course, fire protection equipment.

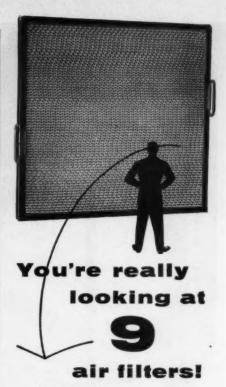
Other subjects discussed during the three-day conference included: "Basic Forces Determining the Design of Structures," by Walter C. Voss, Professor Emeritus, Department of Civil and Sanitary Engineering, M.I.T.; "Points of Reference in Building Design for Fire Safety," by Horatio Bond, Chief Engineer, National Fire Protection Association; and "The Significance of Fire Loading," by Raymond C. Corson, Factory Mutual Engineering Division.

"Fire standards are road maps to fire safety," said James J. Duggan, Superintendent of Fire Protection, Carbide and Carbon Chemicals Co., in his speech on "Fire Prevention Methods." Road maps show where to go, but they must be interpreted with intelligence and discrimination to determine the best route to

#### FOOD ENGINEERING Curriculum

Florida State University is initiating a new course in Food Facilities Engineering this fall. The course, which has the support of the architectural and engineering professions, the American Dietetic Association, the manufacturers of food service equipment and the owners of large feeding establishments, will include four years at the University and one year in the field. Graduates will receive a degree of Bachelor of Science in Engineering.

(Continued on page 246)



Type 68 — 2" — finer mesh media and tighter pack for higher efficiency on smaller particles.

Type 44-68 — 4" — double packed for special applications requiring highest efficiency.

Type 44 — 1" — gable crimped for high efficiency; for ventilation, pack-- gable crimped for age air conditioners, furnaces, etc.

Type 44 - 2" - general ventilation for dirt, lint, paint, grease, oil, etc.

Type 44 - 4" - for greater dirt holding capacity.

Type MZ-2"-zinc chromate painted before and after assembly; hot dipped galvanized frame; marine ventilation application.

Type MZ-4"-same except 4" thick. Type C4C4-2"-all copper media and frame; for corrosion resistant water eliminators, etc.

Type C4C4-4"-same except 4" thick.

Except as noted, filters are made of zinc electro-plated herringbone-crimp steel screen media in sturdy steel frames. Other materials are aluminum, stainless steel and monel. Available in all sizes.

Because one filter won't do every air cleaning job, Farr Company has nine standard types designed to handle practically any dirt condition. Each embodies the famous herringbone-crimp media design and other Far-Air quality features, but differs in materials, thickness, etc. The efficiency of your air handling system is dependent on the filters used. Be sure you install the right type.

Send for complete catalog of FAR-AIR products to Farr Co., P.O. Box 45187, Airport Station, Los Angeles 45, Calif.

ORIGINATORS OF FAR-AIR CERTIFIED FILTER SERVICE



ufactured under license by Farr Comp Nanufacturing Ltd., Montreal, Canada

STAINLESS STEEL FOR BUILDINGS

# McLouth STAINLESS

Steel

High quality stainless sheet and strip steel . . . for the product you make today and the product you plan for tomorrow.

MCLOUTH STEEL CORPORATION

Manufacturers of Stainless and Carbon Steels

# From New York to Buffalo it's Sarcotherm at every point ?

427 MILE NEW YORK STATE THRUWAL

At <u>all</u> 40 toll interchanges heating systems controlled by Sarcotherm Weather-Compensated Systems



Taller & Cooper

HERE IN EFFECT is a heating system which stretches from the southeastern to the northwestern extremities of New York State.

It is obvious, therefore, that such a system must be so simple, so fool-proof, so utterly dependable, that any possibility of breakdown or other trouble will be reduced to an absolute minimum.

That is why reliability received so much attention from the Thruway's heating engineers. And that is one of the principal reasons why Sarcotherm Weather-Compensated Control Systems are installed in all 40 toll interchanges.

NEW YORK CITY

#### Advantages of Sarcotherm Systems

Easy to install — tailor-made drawings and diagrams of the complete system are furnished for each job.

Easy to maintain — by regular maintenance men, because of simplicity, fewer parts, such as transformers, relays.

Easy to adjust \_ to any desired setting.

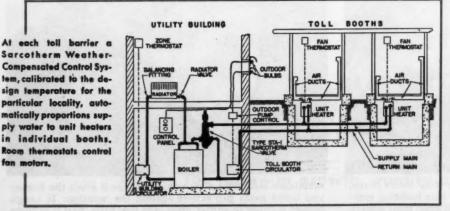
Complete control system — including all specialties such as radiator valves, balancing fittings — all from one manufacturer, Sarcotherm. Unit responsibility.

On the job assistance — to contractors from Sarcotherm's field engineers.

#### SARCOTHERM CONTROLS, Inc.

Empire State Bldg., New York 1, N. Y. An affiliate of Sarco Company, Inc.

4002-C



Weather-Compensated Control Systems for HOT WATER, RADIANT AND STEAM Heating

# **Build extra value into your construction**



Aluminum duct, for heating and ventilating adds value by cutting heat costs as much as 10 per cent. Can't rust or streak, need never be painted. Permanently attractive. Its lightness makes it easy to install.



Aluminum awnings add value because they beautify homes and at the same time reflect sun's heat. They're strong yet light, easy to install. Can't rust, can't burn, need little upkeep.



Aluminum windows add value because they won't warp, shrink, crack, rattle or leak. They won't mar building exteriors with ugly red rust stains. And they'll keep their silvery beauty for years.

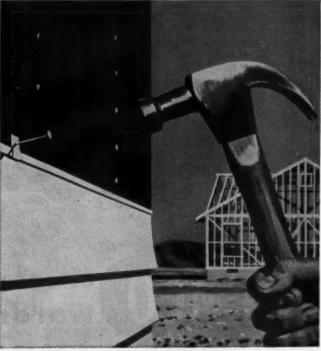


Aluminum insulation adds value because it gives the homes you build extra protection against the weather. It keeps houses warmer in winter, thus cuts fuel bills. And it reflects summer heat, thus gives year-round comfort.

# with ALUMINUM PRODUCTS!



Aluminum shingle roofing adds value because it can't rust or rot, keeps its modern good looks for a "housetime." Needs no paint or maintenance. Provides weathertight insulation against heat and cold.



Aluminum nails add value because they can never deface building exteriors with ugly rust stains, can never "rot out" ... thus help assure permanent beauty.

When you specify aluminum products for your customers, your construction will have greater sales appeal—because aluminum provides a combination of advantages that no other material can match.

Among these advantages are light weight, strength, corrosion resistance, economy, and modern beauty.

Today, there is a plentiful supply of building products ... due in great part to our vast expansion. We now have the capacity to produce 30% of all the primary aluminum made in this country.

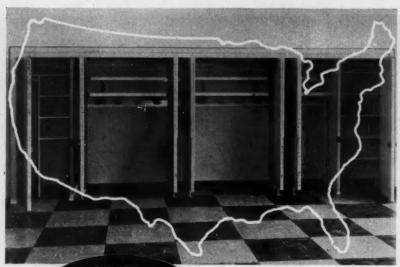
If you are using a standard building product you think would be better in aluminum, or if you have in mind any new product not now being manufactured, we will be glad to help you obtain the finished product you need.

Engineering assistance is available from our qualified aluminum engineers. Or for name of building products manufacturers who will be glad to work with you, contact any Kaiser Aluminum office listed in your telephone directory. Kaiser Aluminum & Chemical Sales, Inc., General Sales Office, Palmolive Bldg., Chicago 11, Ill.; Executive Office, Kaiser Bldg., Oakland 12, Calif.

# Kaiser Aluminum

setting the pace—in growth, quality and service

### Proved By Thousands Of Installations In American Schools



EMCO

Pat. No's. 2,149,575; 2,617,155

#### classroom wardrobes

REMEMBER EMCO IS THE WARDROBE WITH

The excellent service record and acceptance of EMCO classroom wardrobes are two good reasons why it will pay you to investigate EMCO first. In EMCO you'll find all the finer features of good wardrobe design plus attractiveness, space saving, proper ventilation, easy quiet door operation and safety. It's the quality line of wardrobes that offers the most for the money.



EMCO offers a complete line of classroom wardrobes both in receding and pivoted types—multiple operated or individually operated. Write for details and name of representative.

EQUIPMENT MANUFACTURING COMPANY, INC.

1400-AR Spruce • Kansas City, Mo.

#### A ROUNDUP

(Continued from page 241)

#### PAINT | Chlorinated Rubber-base Mixture Resists Condensation

A chlorinated rubber-base paint has been shown to stand up under adverse moisture conditions through extensive tests in the new Toronto subway.



During the tests about 750 sq ft of the tunnel area ceiling were painted with over 100 paints of four different types: chlorinated rubber, oil, alkyd and water-based cement. Subsequently the paints which showed a good initial appearance were applied to a 50-ft length of the tunnel, where the concrete had been sandblasted. The chlorinated rubber finishes which resisted condensation proved able to withstand washing and the action of cleaning agents without deterioration, and maintained their whiteness over a long period of time in the absence of natural light. The paint selected provided proper coverage in a single coat.

#### PLASTIC PIPE OK'd for Sanitation

Plastic pipe is safe, from the health point of view, for use in conducting water for human consumption, according to the most recent results of a study being sponsored by the Society of the Plastics Industry under the auspices of the National Sanitation Foundation Testing Laboratory. Twenty-three samples of plastic pipe were submitted by different manufacturers for testing and were classified into four general groups according to the basic resins used.

In an interim report entitled "Plastic Pipe for Potable Water Supplies," presented before the annual meeting of the American Water Works Association, Walter D. Tiedeman, Executive Director of the NSF Testing Laboratory, urged that an adequate continuing testing program be established and that proper identification of approved types of pipe be made for the benefit and protection of the consumer. A full report on the research is scheduled to be published early in 1955.

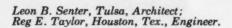
(Continued on page 250)

### another outstanding



#### installation



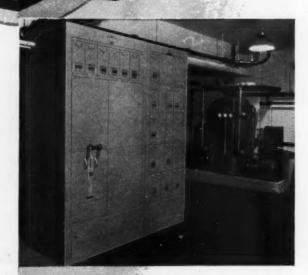


The new and modern YMCA building in Tulsa, Okla., is the latest addition to the growing list of new and modernized buildings - commercial, industrial, institutional and residential - equipped with @ products for the control and distribution of power and light.

Like so many others, officials of the Tulsa "Y" learned, after careful study, that @ products were safe, dependable, long-lasting and trouble-free, and that they not only provide for present-day power needs, but allow for future expansion.

The next time you design a building, specify no products for control and distribution of light and power. You'll find it pays.

For further information, consult our catalog in Sweet's or your nearest @ representative.



B Switchboard installed in new Tulsa "Y". The complete line of (8) switchboards includes:

(8) SHUTLBRAK — 30 to 1200 amps., 250 volts AC or DC

and 600 volts AC 2, 3 and 4 poles. Rotary type operating handles furnished on 30 to 200 amp. capacities. Straight handles on all others.

KLAMPSWITCHFUZ AND SNUFARC —

Klamps witchfuz capacities 30 to 600 amps., 250 volts AC

or DC, 2, 3 and 4 poles, single or double throw. Snufarc 30 to 200 amps., 600 volts AC 2, 3 and 4 poles.

(B) CIRCUIT BREAKER — 15 to 600 amps., 250 volts AC

or DC and 600 volts AC, 2 and 3 poles. Air circuit breakers used for larger capacities.

Frank Adam Electric Co. BOX 357, MAIN P. O. . ST. LOUIS 3, MO.

makers of: busduct · panelboards · switchboards service equipment · safety switches load centers . Quikheter

# Lee Schoen picks Bigelow carpet for its versatility



Mr. Lee Schoen, member of the architectural firm of Eugene Schoen & Sons, presently Schoen and Hennessy, of New York. Among their most recent accomplishments are the Franklin National Bank in Franklin Square, Long Island, the Downtown Athletic Club in New York (shown here), Rikers Restaurant in midtown Manhattan, and the new Laundry Workers Health Center in New York.

THERE is an underlying principle of interior design that has guided these firms throughout their extensive experience. Fit the environment to the personality and needs of those using the space.

That is one of the reasons why versatile Bigelow carpet has been specified in many of their 2,800 jobs over the past 50 years. Mr. Lee Schoen comments further on why Bigelow carpet continues to be specified time and time again:

"In our association with Bigelow we have found the closest cooperation that goes far beyond simply filling a contract order.

"Bigelow carpet specialists understand the architect's ideas. They give intelligent aid in developing color schemes and patterns that help in carrying out our designs.

"A wide range of colors, textures and patterns offer carte blanche in floor treatment.



"Bigelow carpet is tough, uniformly constructed—beautiful. And it is always a satisfaction to the owner."

Planning a carpet installation? You'll find it worth your while to consult Bigelow experts as early as possible.

You'll want the right color, the right pattern and weave. One of Bigelow's trained specialists will help you select ideally suited carpet—at a price to fit your project budget. This service is free.

Simply write to one of the sales offices, listed opposite, for information or carpet samples.



The Dining Room of the Downtown Athletic Club in New York City. Note how Bigelow's beautiful Hartford-Saxony, with its circular pattern, gives complementary contrast to the rectangular designs of ceiling and walls.



### BIGELOW Number 1 name in Carpets

Bigelow sales offices are located in the following strategic cities: Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Tex.; Denver, Col.; Detroit, Mich.; Hartford, Conn.; High Point, N. C.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; Minneapolis, Minn.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; San Francisco, Calif.; Seattle, Wash.

MAIL THIS COUPON FOR	Send me William of the new Internation	L COMPANY FVANSVILLE 7, INDIAN ost or obligation my per onal "Entrance-Planning"	A prsonal copy Manual":
YOUR NEW ENTRANCE-	NAME AND POSITION		
PLANNING MANUAL	ADDRESS	ZONE	TATE
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	COX RULLO	ING.	

Harrison & Abromovitz: Architects; Altenhof & Bown, Mitchell & Ritchey: Associate Architects

# revolving doors, of course, for the New home of Alcoa



ALWAYS OPEN ALWAYS CLOSED

FIRST IN THE "OFFICE OF THE YEAR" AWARDS FOR 1953, the first metal-clad skyscraper ever constructed . . . lightest weight office building of its size in the world . . . the new Alcoa Building furnishes a truly fitting setting for the offices of a great corporation.

And what more fitting entrance for this epoch-making structure, than the revolving doors that welcome you into Alcoa's new home! Made of aluminum and crystal—set into a main entrance soaring a full 4½ stories high—these doors offer far more than advanced design to merit architectural specification. For, they alone assure all the entrance advantages essential to maintaining the comfort and cleanliness demanded for this most modern of buildings. They alone are "always open . . . always closed" . . . always a self-paying investment in entrance safety, efficiency, and unfailing dependability.

Before planning any structure, be sure you have the new International handbook on the latest and best in modern building entrances. The above coupon brings you this valuable data without cost or obligation. Mark it and mail it now.

REVOLVING DOOR DIVISION
2002 EDGAR ST. EVANSVILLE 7, IND.

INTERNATIONAL STEEL COMPANY

#### A ROUNDUP

(Continued from page 246)

#### MATERIALS HANDLING Help Offered in Planning Systems

Technical assistance in planning materials handling systems for new or remodeled buildings is available to architects through an Architects Advisory Service established by The Rapids-Standard Co., Inc., Grand Rapids, Mich., manufacturers of conveying equipment. The new service provides help in the planning stages of construction and includes consultation, suggested layouts, prints and specifications of equipment, and recommended practices for handling any type of material in single- and multi-floor buildings. A brochure of case studies, photographs and specification bulletins showing application of materials handling equipment to shopping center operations is also available.

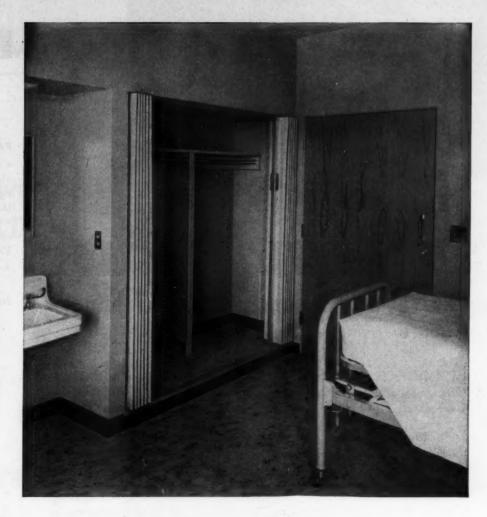
#### MEETINGS Slated on Welding, Automation and Maintenance

- Sessions on structural welding, weldability and welding in design and production are among nineteen sessions to be held during the National Fall Meeting of the American Welding Society in Chicago from Nov. 1 to 5. Fifty-seven papers covering all phases of welding activity will be presented.
- The First International Automation Exposition is scheduled for Nov. 29 to Dec. 2, 1954, at the 244th Regiment Armory in New York City. The Exposition, presented by Richard Rimbach Associates, publishers of Instruments and Automation, Instrument Apparatus News and Instrument Manufacturer, is designed to bring together basic equipment that makes automation possible.
- "Plant Layout and Construction" will be one of the topics discussed during a three-day symposium scheduled during the annual convention of the Industrial Housekeeping Safety Guild at Atlantic City from Nov. 6 to 11. A panel on Tuesday, Nov. 9, will discuss a proposal to establish a Guild seal of approval for recognized, trade-marked and nationally advertised products, to be issued only after laboratory testing as a prestige symbol. The panels will supplement an exposition of new products, new equipment and new methods of industrial maintenance of 150 exhibitors.

### Additional Hospital Space At No Additional Cost...

when you specify "Modernfold" doors. according to Architect Gerald G. Scott, Portland, Oregon. Writes Mr. Scott: "Modernfold' doors were specified as an alternate to the Specifications for the Central Oregon District Hospital, but when the bids were opened, it became apparent that these doors could be had for no additional cost over wood doors. Their use was more than justified by an overwhelming list of advantages, including economy, but particularly by their space-saving feature. The Contractor was especially pleased because they relieved him of the responsibility of hardware, painting, and installation; resulting in less time on his part spent during the finishing stage of the job."

Pictured is one of the rooms from Central Oregon District Hospital, Redmond, Oregon. Scott & Payne, Portland, Architects.



# Your ideas come to life ... for life with "Modernfold" doors

For every room division or door closure problem, there's a simple, economical, space-saving solution. That's "Modernfold," the original folding door.

Specifying "Modernfold" doors keeps clients happy. For these steel-framed, vinyl-covered doors can't be equaled *anywhere* for quality of design . . . for quality and strength of materials.

And because this line is complete, you're sure to save time and get exactly what you want when you specify better looking, easier operating, longer lasting "Modernfold" doors.

NEW CASTLE PRODUCTS, INC. New Castle, Indiana; Montreal 6, Canada



### **Better Looking**

Fabric covering conceals all operating mechanism. No cornice needed. Adjustable trolleys keep doors hanging flush to jamb.



### Longer Lasting

Balanced hinge construction both top and bottom. Trolleys attached at hinge intersections. No sidewise twist or pull possible.



### **Better Background**

Over 100,000 "Modernfold" doors now in operation—a backlog of space engineering experience that's your guarantee of satisfaction.

### YOU CAN'T GET MORE IN A FOLDING DOOR



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NEW CASTLE PRODUCTS, INC. 1954

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New	Castle, Indiana
Plea	se send full details on "Modernfold" doors.
Nam	e
Add	ress
City.	State



# Provides Engineered Cove Lighting AT A NEW LOW PRICE\*

**VISIONAIRE** is a unique fluorescent fixture engineered to meet the structural and mechanical problems encountered in cove lighting that cannot be solved with conventional equipment.

**VISIONAIRE** is, in reality, a prefabricated lighting system available in easily installed unit lengths of 24, 33 and 48 inches to present an unbroken line of light, extremely decorative in effect.

The bottom louvered opening provides efficient down-wall lighting, while the metal side reflector, which may be either luminous or opaque, provides soft, even, over-all indirect lighting without any trace of glare.

In new construction or on a remodeling project, VISIONAIRE with its low initial cost, easy installation and simple maintenance, will "pay its own way" in efficiency, economy and effectiveness.

> \* The equipment cost for a prefabricated Visionaire lighting system is, on the average, under five dollars per foot . . . a considerable saving on ordinary built-in cove lighting that provides neither the efficiency, nor the fine finished appearance of Visionaire.

### FOR COMPLETE DETAILS

For complete details on Visionaire, send for this informative bulletin sheet No. 521S-11. It contains construction, performance and application data that will help you put Visionaire to its most effective use. Address request to Dept. V....



### SILVRAY LIGHTING, INC.

RKO BLDG. RADIO CITY

NEW YORK 20, N. Y.

### A PRODUCTS

(Continued from page 222)

### MORE PLASTICS

### **FABRICS**

• Plastic-coated fabric patterns are suitable for furniture upholstery and other types of interior decoration. Kyoto is the name of a new two-tone design which resembles the natural fiber effect of Japanese matting. Textileather Div., The General Tire & Rubber Co., Toledo 3, Ohio.

### INSULATION



• Insulation of plastic Styrofoam not only keeps heat in but also keeps it out. Here second layer of Styrofoam blocks is skewered to first layer on which a cold-setting asphalt has been troweled to insulate cold-storage room. Dow Chemical Co., Midland, Mich.

### LIGHT PANELS



• Light diffusing panels are produced in square and rectangular multiples of 12-in. ceiling blocks for hospital, school, hotel, institutional and commercial installations. Formed of ½-in.-thick impact-resistant Plexiglas, the panels are hinged for ease in cleaning. They can be mounted individually or in continuous rows. Units are available with rapid start or standard fluorescent lamps. The Safety Car Heating & Lighting Co., Inc., New Haven, Conn.

(Continued on page 258)

seared for 45 minutes at temperatures up to 1720° (F.)

this new
industrial roof
didn't burn!
didn't feed
the flames!
didn't fall!

Immediately below the roof in this photo, rages a high-intensity fire, producing heat equivalent to 240 residence-sized gas furnaces operating at full capacity... or more than 24 million BTU's in 45 minutes! Last year, similar fires dealt losses of at least \$250,000 to each of 105 manufacturing plants! Note, however; that the roof proves to be completely incombustible and remains intact! Now, you can have this same fire protection for all of your buildings! See following pages...

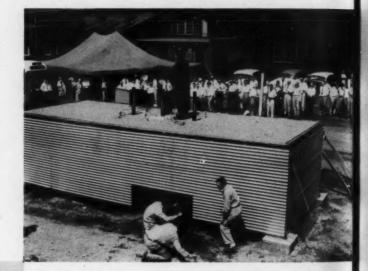




## Rugged fire test proves safety of Tufcor Metal Roof Deck with Cast-in-Place Insulating Slab

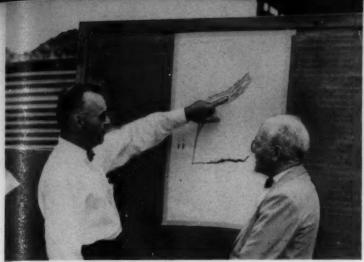
On June 9, 1954, more than 100 U.S. architects, engineers, contractors, roofing manufacturers and insurance men met at Granite City Steel Co., Granite City, Ill. to witness the fire test of a new steel and concrete roof. Designed to prevent the spread of fires, the roof is made of Tufcor galvanized corrugated steel sheets topped by lightweight, insulating concrete.

1. LIGHTING THE FIRE. Test structure represented one 25 ft. bay in a multi-bay structure. Roof support consisted of 10 WF21 main framing beams supporting 11.8 pound junior beams at 6'3" spacing. To concentrate maximum heat in center bays, fire was produced by 24 gas burners located on either side of center support beam. Mica windows on side walls of heated bays aided visual observation.





2. INSIDE TEMPERATURE SKYROCKETS to about 1000° in 5 minutes... 1300° in 10 minutes... 1550° in 30 minutes! Although test was conducted in open sun on a blistering day, average roof-top temperature reached only 200°... a mere 60° above the temperature a black roof will reach through solar heat, alone! Tremendous differential between inside and roof-top temperature was maintained by just 2½" of insulating fill! A life-size manikin remained on top the roof throughout the test to vividly show insulating properties of the roof. Sixteen thermocouples measured temperatures inside the structure and on top of the Tufcor, cement, and built-up roof. White haze at roof top came from vaporization of zinc coating on side sheets.



3. CAREFULLY CONTROLLED TEST follows ASTM specification E119-50, which requires temperature to reach 1630° in 45 minutes. Analyzing industrial fires in 1953, one national report stated "95% of losses occurred in partially combustible structures." National Fire Protection Association found "Only 3 of (major) losses occurred in fire resistant buildings."



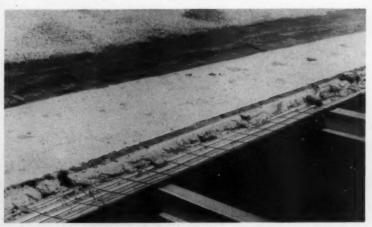
4. COLD STREAM OF WATER, played on the white hot underside of the Tufcor deck, (after 45 minutes) simulates force of fire-fighting efforts. Billowing steam clouds and Pyrometer readings taken 5 minutes after flames were extinguished showed jarring suddenness of temperature drop and ability of Tufcor to absorb extremes and rapid changes in temperature.



and after the 45-minute test proved that flames had not spread along the underside of the roof, that the roof had neither smoked nor propagated fire! Although extreme heat had completely warped corrugated side walls, the asphalt gravel roof had not blistered or burned—was still intact. Retention of roof strength, after test, was proved by 160-lb. man who climbed atop the test structure, jumped on the roof at midspan, posed beside 190-lb. manikin. Deck was still able to carry full design live load.



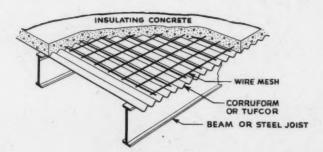
6. LOAD TESTS show the tremendous strength of a roof slab similar to that used in the fire test. After ½ million cycles of repeated loading, from zero to full design live load, the slab was loaded until it finally failed at 273 psf of 8.9 x design live load! Based on 30 psf live load, the ultimate factor of safety of the Tufcor roof slab is 9.0. (See Pittsburgh Testing Laboratory Test No. 282-T-403.)



7. SIMPLICITY AND ECONOMY of construction are primary advantages of this Tufcor and concrete slab. All elements of cost are shown here: hot-dip galvanized steel deck, wire mesh and insulating concrete fill. Recent bids show this superior deck can be used at a cost comparable to ordinary painted metal roof deck with insulation board, or other types of slabs on bulb-tees or purlins. FOR BUILDING INSTRUCTIONS, SEE NEXT PAGE!

# fire-resistant roofs are easy, economical to build

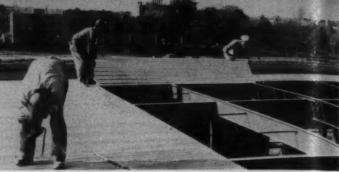
... and Granco offers three ideal deckings for cast-in-place slabs!...



Standard Corruform, Heavy-Duty Corruform, and Tufcor—all non-combustible, all stronger than ordinary steel of the same gauge! When welded to purlins, these Granco tough-temper panels form a HIGH-STRENGTH steel deck over the building, tying roof members into a single strong plate. Lightweight deck also permits designer to use maximum ECONOMY in framing since total dead load of steel sheets and concrete is less than 7 psf! Most important, Granco steel sheets are hot-dip galvanized to offer greater PERMANENCE than ordinary painted metal deck! This permanence combined with long life of concrete results in a far superior roof system. Over 10,000,000 sq. ft. of Granco roofs already in service! For more information, write for FREE Engineering Data Section SFg-546, Dept. AF-D, GRANCO STEEL PRODUCTS CO.

Write today Also . . . see our catalog in Sweets

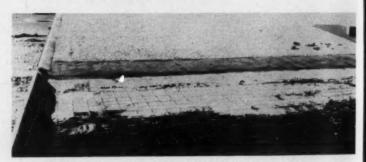




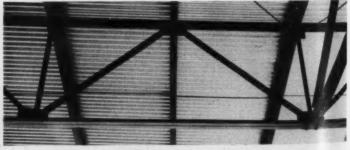
STEEL SHEETS ARE QUICKLY PLACED AND SECURED by welding or by clips attached to top of joist. Attachment of sheets makes roof rigid, provides working platform. Special Granco tough-temper steel takes construction abuse—adds safety factor.



concrete fill is placed over welded-in-place deck and steel mesh. This insulating slab weighs only 5 lbs. psf for a 2½" average depth. (Insulation value equivalent to 1" of insulating board.)



BUILT-UP ROOF IS APPLIED after slab has cured 8-10 days. Rigidity of slab gives strength, long life to roof. Built-up roof is protected from fire by the insulating layer of concrete.



ATTRACTIVE UNDERSIDE. The bright galvanized surface of Tufcor and Corruform gives lasting protection to steel; affords excellent light reflection when left exposed—however any normal ceiling treatment may be applied.

GRANCO

STEEL PRODUCTS COMPANY

Subsidiary of

GRANITE CITY STEEL CO.

GRANITE CITY, ILLINOIS

DISTRIBUTORS IN PRINCIPAL CITIES

NOW-

top quality heating at a budget price

### the RICHMOND Budgeteer

type SV-36-0

Here's a new steel, gas-fired furnace designed to solve many of your installation and service problems. The Budgeteer is amazingly compact—ideal for limited floor space installations in utility rooms, closets or alcoves—it's approved for one inch clearance. All working parts are easily accessible from the front for complete servicing. Rated at 70,000 Btu/hr. input, the Budgeteer SV-36-G provides fully automatic operation for constant, dependable heat. The low-speed, direct-drive blower makes for quiet, efficient operation.

Heating element and radiator are of heavy gauge steel welded together in one compact unit with all-welded, gas tight seams. Insulation is heavy corrugated asbestos, faced with aluminum foil. The *Budgeteer's* sturdy, steel casing is finished in smooth Hammertone baked-on enamel in attractive light green color.

Approved by the American Gas Association Laboratories for use with natural, mixed, manufactured, liquified petroleum and LP air gases, the *Budgeteer* is engineered to provide long, efficient operation at a budget price. Write for complete specifications.

AR/10

### RICHMOND radiator company

16 Pearl Street, Metuchen, N. J.

Please send me complete information on the new SV-36-G Budgeteer ☐ the new "Weather-Aire" ☐

COMPANY

ADDRESS

We are 

architects 

builders 

heating wholesalers

heating contractors.



Affiliate of Reynolds Metals 16 Pearl Street Metuchen, New Jersey

### PRODUCTS

(Continued from page 252)

### BUILDING PANELS

· Daycor fiber glass building panels are produced in both corrugated and flat types for application as patio covers, carports, porches, awnings, room partitions, skylights and greenhouses. Translucent and shatterproof, Daycor is produced in 10 colors and black. Plastics Div., Strick Co., Whitaker & Godfrey Aves., Philadelphia, Pa.



· Structural panels of glass fiber and plastic are shatterproof and weatherresistant and are available in nine sealedin colors. The new "502" Small Shiplap and "400" Bat and Board designs shown have a 4-in. flat surface and a 3/4-in. offset, with corners rounded to a 1/4-in. radius. Rippolite Plastic Products, Inc., 3910 Cohasset St., Burbank, Calif.

### SURFACE COVERINGS



- · Plastic Verger wood grain is a covering for cabinets or walls available in rolled sheets about 24 by 34 in. It is easily applied and is available also in leather and marble finishes. The Meyercord Co., 18 East 60th St., New York, N. Y.
- FibeResin school desk tops are claimed to be resistant to gouging, nicking, prying, trenching and doodling with crayon, pencil or pen. Composed of plastic materials molded and bonded under heat and pressure into one solid homogeneous board unmarred by separate glue lines or backing sheets, the surface is easy on the eyes and easily cleaned. FibeResin Plastics Co., Oconomowoc, Wis.
- Panelyte plastic board is a high-pressure laminated, thermosetting composition

of synthetic resins and paper available in 1/10-in. thickness, which can be filed, sawed, glued, planed and curved and which resists stains, swelling, cracking, chipping and burns. Panelyle Div., St. Regis Paper Co., 230 Park Ave., New York 17, N. Y.

· Fabri-Form plastic sink top is said to be impervious to damage by food, stains, grease, alcohol, boiling water and cosmetics and is available in standard lengths and sizes or can be cut. This pre-formed drainboard unit eliminates cracks, joints and the need for metal molding. Fabrilex Mfg. Co., 415 South Ave., Los Angeles 17, Calif.



(Continued on page 262)



### NOW INSTALLING

Fissured for beauty...Fiber for economy

ALABAMA
Badham Insulation Co., Inc., Birmingham Stokes, Inc., Mobile

ARIZONA

Fiberglas Engineering & Supply Co., Phoenix Hall Insulation & Tile Co., Tucson

CALIFORNIA
Coast Insulating Products,
Los Angeles and San Diego
Cramer Acoustics, San Francisco and
Fresno

COLORADO
Construction Specialties Co., Denver

CONNECTICUT

Wilson Construction Company, East Hartford, Bridgeport

GEORGIA Dumas and Searl, Inc., Atlanta

General Acoustics Co., Chicago

INDIANA

The Baldus Co., Inc., Fort Wayne E. F. Marburger & Son, Inc., Indianapolis

IOWA Kelley Asbestos Products Co., Sioux City

Kelley Asbestos Products Co., Wichita

KENTUCKY
Atlas Plaster & Supply Co., Louisville LOUISIANA Ideal Building Materials, Inc., Shreveport

MARYLAND Lloyd E. Mitchell, Inc., Baltimore

MASSACHUSETTS

Acoustical Contractors, Inc. Brighton

MICHIGAN
Detroit Fiberglas Insulation Division,
Detroit

MINNESOTA
Dale Tile Company, Minneapolis

MISSISSIPPI Stokes, Inc., Jackson

MISSOURI
Hamilton Company, Inc., St. Louis
Kelley Asbestos Products Co.,
Kansas City

NEBRASKA Kelley Asbestos Products Co., Omaha

NEW JERSEY Kane Acoustical Co., Fairview

NEW MEXICO Fiberglas Engineering & Supply Co.,

NEW YORK

Davis Acoustical Corp., Albany
Davis-Fetch & Co., Inc., Buffalo,
Rochester and Jamestown
Robert J. Harder, Inc., Lynbrook, L. I.
James A. Phillips, Inc., New York

NORTH CAROLINA

Bost Building Equipment Co., Charlotte

R. B. Brunemann and Sons, Inc., Cincinnati The Mid-West Acoustical & Supply Co., Cleveland, Akron, Columbas, Dayton, Springfield and Toledo

OKLAHOMA
Harold C. Parker & Co., Inc.,
Oklahoma City
Kelley Asbestos Products Co., Tulsa

OREGON

Acoustics Northwest, Inc., Portland R. L. Elfstrom Co., Salem

PENNSYLVANIA
General Interiors Corporation, Pittsburgh
Selby, Battersby & Company, Philadelphia

SOUTH CAROLINA General Insulation & Acoustics, Inc., Columbia

TEXAS

Blue Diamond Company, Dallas
Fiberglas Engineering & Supply Co.,
El Paso
Builder's Service Co., Fort Worth

Utah Pioneer Corporation, Salt Lake City

VIRGINIA Manson-Smith Co., Inc., Richmond

WASHINGTON
Elliott Bay Lumber Co., Seattle
Fiberglas Engineering & Supply Co.,
Spokane

WISCONSIN Building Service, Inc., Milwaukee

CANADA Albion Lumber & Millwork Co., Ltd., Vancouver, B. C. Hancock Lumber Limited, Edmonton, Alberta

A revolutionary acoustical product

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Ask the Simpson Certified Acoustical Contractor nearest you to show installations or photos... or mail this coupon today for more information.

Fissured beauty in the price range of perforated woodfiber tile ...

> The world's first fissured woodfiber tile, the world's first practical square-edge fiber tile (also available in beveled-edge) ... costs up to 35% less installed than fissured mineral tile.

Simpson Logging Company 1010 White Building, Seattle 1 Please send full details on Forestone Acoustical Tile

NAME

ADDRESS.

STATE

SIMPSON LOGGING COMPANY AT SHELTON, WASHINGTON

# Typical applications of Pittsburgh Glass in recent



79 SOLEX-TWINDOW units make up this patio wall of the Neiman-Marcus Preston Center Store at Dallas, Texas. The result is a pleasant shopping environment, the best possible display of the merchandise, protection to fabrics and other materials against excessive fading and bleaching by intense sunlight. The inset shows a detail of one of the entrances in which Herculite Doors are utilized. Other Pittsburgh Glass products used here include Polished Plate Glass, Mirrors, and Heavy Rough Plate for the interior stair railing. Architects: De Witt and Swank, Dallas, Texas; Interior Designer: Eleanor LeMaire, New York City.

### en construction





THIS INTERESTING entrance at the Schmidt Provision Company, Toledo, Ohio, is completely walled with Pittsburgh Plate Glass (approximately 20 ft. wide and 20 ft. high-running from the floor to the ceiling). It is set in Pittco De Luxe Sash No. 12 C and divided with horizontal and vertical mullions of No. 24 CTC. The doorway itself is a standard Pittsburgh Doorway, Style No. 16. Architect: Karl B. Hoke, Toledo, Ohio.



SOLEX-TWINDOW gives all the advantages of Twindow-Pittsburgh's window with built-in insulation—plus the solar-heatabsorbing, sun-glare-reducing properties of Solex. As shown by this cutaway view, these units consist of two panes. The outer is Solex, the inner clear Plate Glass. In between is a sealed-in air space. A stainless steel frame protects the seal and glass edges, and it also makes handling safe, quick and easy

# Design it better with Pittsburgh Glass



Your Sweet's Catalog File contains detailed information on all Pittsburgh Plate Glass Company products . . . Sections 7a, 13e, 15, 16b, 21.

· CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

GLASS COMPA (Continued from page 258)

### SKYLIGHTS

· A thermoplastic acrylic resin dome skylight, the AP is designed for use on any flat roof. Available in sizes made to fit standard roof joist spacings and roof openings, the dome and metal trough are placed in position and attached by screws. The roofing material is then spread over the flange to complete the job. Architectural Plastics, Inc., 20 Fitch St., East Norwalk, Conn.

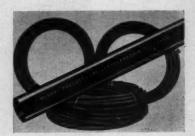




· Plastic skydomes provide efficient and economical natural daylighting for interiors of windowless structures. In this 500- by 400-ft U. S. Signal Corps Depot in Tobyhanna. Pa., 585 domes were installed on an extruded aluminum frame screwed to a wood border. The domes are 64 by 96 in. and have a rise of 19 in., which prevents obstruction by snow and makes them self-cleaning in rain. Wasco Flashing Co., Cambridge, Mass.

### PIPING

· Plastic valves of unplasticized polyvinyl chloride are produced as needle valves ranging in size from 1/8 through 3/4 in. and globe valves ranging from 1 through 2 in. Industrial Plastic Fabricators, Endicott St., Norwood, Mass.



• Flexible plastic pipe furnished in nine standard sizes up to 6 in. in diameter eliminates, according to the manufacturer, the deteriorating effects of sunlight encountered in other types of polyethylene pipe. It is usable in aboveand below-ground installations in domestic, farm, industrial, chemical and food processing applications. Munray Products, Inc., 12400 Crossburn Ave., Cleveland 11, Ohio.

### LANTERN POST



· A plastic lantern post, a thermoplastic adaption of the Colonial Post Lantern, resembles wrought iron and can be painted as desired. Eight feet tall, the lantern is produced in four pieces and is said to be durable, rustproof and easily assembled. Herwig Co., Chicago, Ill.

(Continued on page 266)



Dept. AR- 10,

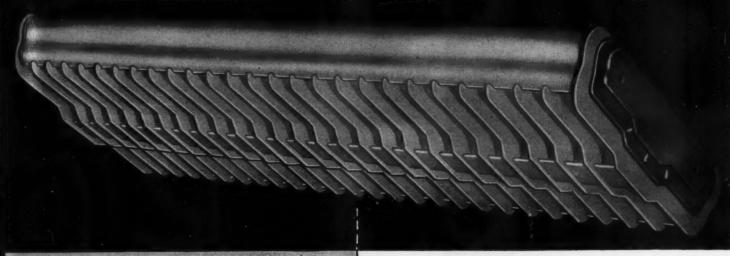
THE MULTI-CLEAN METHOD: The Only Complete Floor Main-

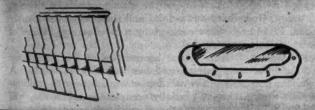
tenance Program Available Through Authorized Distributors Everywhere

# Flexibility PLUS

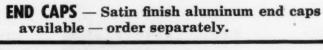
FOR TODAYS MOST EFFICIENT COMMERCIAL LIGHTING

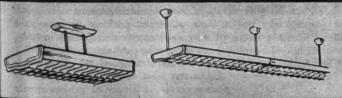
# Wheeler FLO-LINER



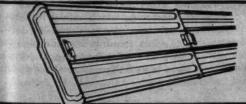


SHIELDING — All fixtures provide 45° crosswise shielding and are available with choice of 25° or 45° lengthwise shielding.





PENDANT MOUNTING — Stem hanger assemblies are required. Single stem hangers used for continuous row mounting. Twin stem hangers for the mounting of individual 48" lamp fixtures.



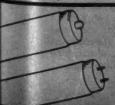
SURFACE MOUNTING — Units may be attached directly to the ceiling. Available as optional equipment are surface mounting plates and top reflectors.





A quality fixture throughout!

85% EFFICIENCY — Translucent plastic side panels and center panel give low brightness for more comfortable seeing and high efficiency. Made of sturdy Polystyrene, they will not warp or discolor. For further seeing comfort 60% of the light is directed above the horizontal.



FIXTURES — 2 lamp and 4 lamp units available for 48 inch 38 watt and 96 inch 74 watt single pin lamps, as well as 48 inch 40 watt bi-pin lamps.



THROUGH ELECTRICAL WHOLESALERS

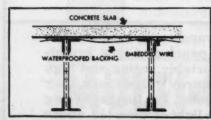
Wheeler REFLECTOR COMPANY



\$5-million Bigelow Apartments, at the top of Pittsburgh's famed Golden Triangle tower 20 stories, contain 465 units all air conditioned. Steeltex Floor Lath provides reinforcement for all floors. Arthur E. Tennyson, Architect. Martin C. Knabe, Structural Engineer. Behrman & Passel, Contractors.



New 3-story addition to Shaler Township High School added 20 classrooms, upped accommodations from 750 to 1400 students, cost \$1.35 million, has gym, auditorium, three shops, offices and locker. Steeltex Floor Lath on all floors. Charles M. & Edward Stotz, Jr., Architects. Geo. H. Chilli, Contractor.



NOTE: In the cross section the weight of the wet concrete forces the backing away, which permits the galvanized steel meah to assume its proper position in the slab. Steeltex floor lath also performs two other functions: It permits work on the floor below while pouring is in progress and retains moisture to assist proper curing.



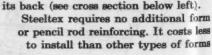
\$13-million low rent public housing project, St. Clair Village, 79 buildings, 723 units in 3-story buildings, 366 units in 2-story row houses. Concrete floors poured over Steeltex. Marks, Fisher & Simboli, Architects. George Levinson, Design Engineer. Ragnar Benson, Inc., Contractors.

# Why building designers in for reinforcing concrete

Pittsburgh, City of Vision, is one of the most progressive cities in America today. Once dirty and smoky and threatened constantly with floods, Pittsburgh, now undergoing a renaissance, is one of the country's cleanest cities.

A vast network of dams in the headwaters of the Allegheny and Monongahela make damaging floods virtually impossible. A stream purification program is well under way. A new \$5-million-per-mile east-west parkway, partially completed and in use, will speed traffic through the city's heart without cross streets or traffic lights. New skyscrapers, new research centers, new industrial plants, new parks, new off-street parking garages have brought about a boom in new apartments and public housing, new schools and hospitals, new shopping centers.

When buildings of this type are being designed, poured concrete decks are most desirable and when you pour concrete, it is only natural to specify Steeltex Floor Lath, the galvanized steel wire reinforcing which carries its form on





One man can roll out a 125' roll of Steeltex in a few minutes. Steeltex provides both waterproof form and steel reinforcement for concrete floors, roofs.



The \$3.5-million nurses home at University of Pittsburgh towers 14 stories, completely air conditioned, contains library, recreation room, reception rooms, cafeteria seating 400—comfortable living quarters for 600. Steeltex in upper floors. Ingham, Boyd & Pratt, Architects. Trimble Company, Contractors.



and reinforcement for concrete because Steeltex can be rolled out like a carpet, stretched with a special tool, and clipped tightly in place by one man (see photo below left).

Steeltex with its waterproofed backing also prevents waste of concrete by reducing leakage to a minimum from the freshly poured slab—craftsmen can continue working on the floor below without getting splattered. Expensive clean-up time is eliminated.

Steeltex insures a strong floor because embedment of steel reinforcing takes place automatically (see note below left). Steeltex allows concrete to cure slowly, properly—guards against excessive cracking—can be installed over any type of joist—will support ample safe loads from 109 to 886 lbs. per square foot depending on spacing of joists and thickness of slab. No wonder Steeltex has been the choice of architects, engineers, contractors, and building owners alike, not only in Pittsburgh but wherever concrete slabs are poured over joists.

If your building plans call for poured concrete floors, roofs, plaster walls or ceilings, masonry veneer or Portland cement (Stucco) exteriors, there's a type of Steeltex reinforcing that will do the job better, faster, with less effort at lower overall cost.

For complete details see the Steeltex catalog in Sweet's or write for your free copy of a new 24-page illustrated booklet "Pittsburgh Steeltex, Backbone of Concrete, Plaster, Mortar." It's yours for the asking.

# **STEELTEX**®

manufactured by the

**Pittsburgh Steel Products Company** 

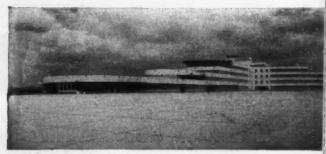
a subsidiary of **Pittsburgh Steel Company**Pittsburgh 30, Pa.



St. Clair Hospital, Mt. Lebanon Township, Pa., serving the growing South Hills area has 116 beds—cost \$1.34 million. Steeltex used in all floors. Kuhn & Newcomer, Architects. R. A. Zern, Structural Engineer. H. Busse, Contractor.



Brentwood-Whitehall Shopping Center built on two levels has 25 shops in 210,000 square feet—80% are air conditioned—parks 1,000 cars. All floors reinforced with Steeltex. Forsyth & Blezard, Architects. Leland Cook, Structural Engineer. Landau Bros., Contractors.



Mammoth decks in this fabulous \$10-million terminal building at \$42-million Greater Pittsburgh Airport, were poured on Steeltex Floor Lath. Last year 2.5-million people including travelers spent \$20 million at ticket counters, restaurants, nightclub, theater, hotel and shops. Joseph Hoover, Architect. Leland Cook, Structural Engineer. Dick Construction Co., Contractors.

### Here are other recent buildings in Pittsburgh and vicinity using Steeltex:

Amberson Gardens
Bedford Dwellings
Center-Negley Apartments
Greentree Apartments
Hebron Grade School
Kennilworth Apartments
Pennsylvania College for Women (Administration Building)
Shadyside Presbyterian Church (Chapel)
St. Augustine's High School
Talbot Towers (Housing Project)
Union Railroad (Office Building)
Westinghouse Educational School
Westinghouse Electric Corporation (Atomic Project Buildings)

# New Harvey aluminum alloy 665

### will reduce your costs



### high-strength-low-cost-ratio

means that Harvey metallurgists have combined the essential qualities of many ideal structural alloys into a single new aluminum alloy—66S. This general purpose alloy is bringing real economy to many industries. It combines the high strength of 24S and the good corrosion resistance, weldability and economy of 61S.

Alert aluminum fabricators can now use 66S to reduce material costs, cut weight without sacrificing strength, and lower fabricating costs. You can reduce your costs at Harvey Aluminum ... tooling service charges are nominal, and Harvey prepays the freight to your dock. Send for your

Bulletin on 66S today.



### A PRODUCTS

(Continued from page 262)

### PLASTIC COATING

• A black, strippable plastic coating can be brushed onto any enamel surface to protect it against damage during construction. Coat-A-Tub, made of liquid vinyl plastic, dries to a strong, flexible film which can be pealed off at the completion of construction. Protectub, Inc., 71 Ludlow St., New York, N. Y.

### AWNINGS



• Fiberglas-plastic awnings diffuse sun rays and shade from glare without blacking out areas under them. Washable and impenetrable by moisture, the awnings cannot corrode or rot and, as shown, are removable from slotted brackets for house painting and repairs. Dickey Mfg. Co., Oakwood, Ohio.

### OTHER PRODUCTS

### PLASTIC CUTTER

• A portable, electric plastic cutting tool is designed for in-shop use to cut plastic up to ½0 in. thickness instead of the usual over-powered, under-speed devices. It will cut Pearlescent tile and large sheets and will also cut diagonally. Steelgrip Plastics, 336 No. Central Ave., Chicago 44, Ill.

### CERAMIC VENEER

• A lightweight ceramic veneer — Robco % Vitrineer — is a clay product % in. thick and manufactured in sheets as large as 12 by 16 and 16 by 24 in. It can be cut and sawed on the job site for both interior and exterior use. Weighing 4 psf, it will not, claims the manufacturer, scratch, burn, stain or separate from a wall to which it has been applied properly. The Robinson Brick and Tile Co., 500 So. Santa Fe Dr., Denver 19, Col.

### **B. F. Goodrich announces**





### Koroseal now used in roofing helps prevent fires like this

### Koroseal is part of new Lexsuco roof construction

A NEW type of construction cuts out a fire hazard in flat roofs. Koroseal flexible material is used to replace the conventional vapor barrier made up of asphaltand layers of asphalt-saturated felt.

Use of Koroseal eliminates burnable material between roof deck and insulation. It also prevents tar or asphalt from dripping down to feed fires below the roof. Other features of the new roof make it more rigid, help cut down buckling during a fire.

The Koroseal flexible material used

The Koroseal flexible material used in the Lexsuco roof construction is specially compounded for this use. It is supplied in rolls for easy handling as shown in the photo. It is rolled out in strips and the laps are sealed. Full-scale fire tests have proved the advantages of this new type of roof over ordinary construction. Yet the complete roof costs no more, sometimes less than standard roofs. B. F. Goodrich does not make direct sales of Koroseal for roofing—you can get complete facts by writing Lexsuco, Inc., 4819 Lexington Ave., Cleveland 3, Obio.

Koroseal flexible material is made in many forms: hard or soft, film or sheet, it can be molded or extruded, fabric can be coated with it. Koroseal may have many future uses in the construction industry. It is waterproof, will not crack, chip or peel, is not affected by paint or by most chemicals and acids. If you have a problem Koroseal may help solve, write: The B. F. Goodrich Company, Marietta, Ohio.

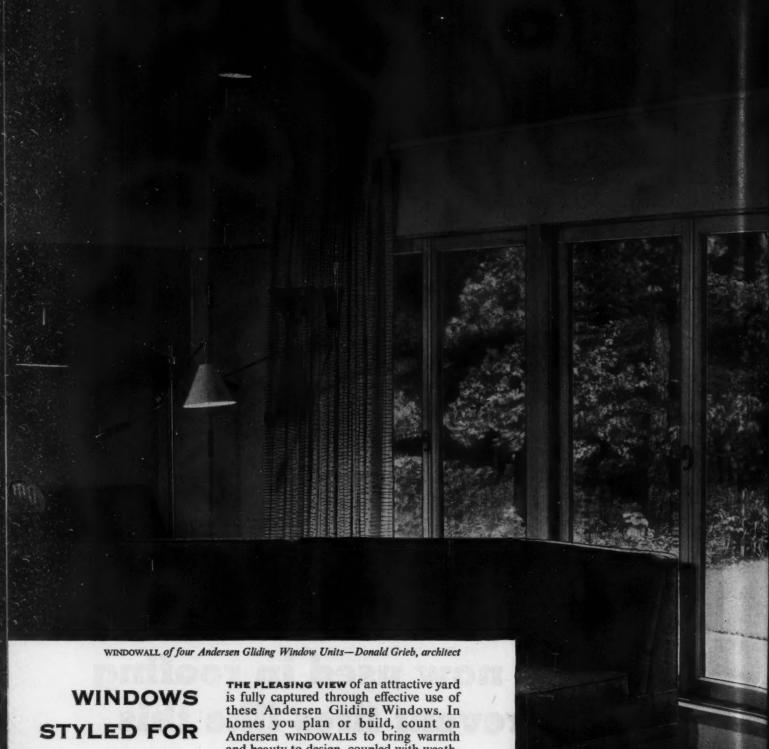
Koroseal T. M. Rog. U S. Pat. Off.

Koroseal

Flexible MATERIALS

BY

B.F. Goodrich
INDUSTRIAL PRODUCTS
DIVISION



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cation data. WINDOWALLS are sold by established millwork dealers throughout the United States including the West Coast.

Andersen Windowalls\*

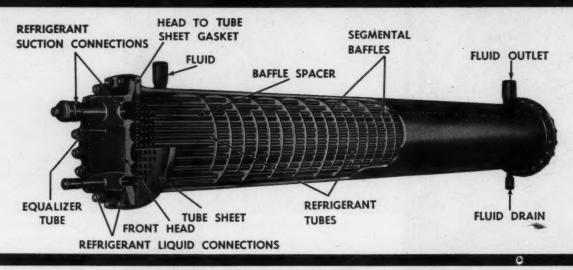
MADE BY Andersen Corporation

COMPLETE WOOD WINDOW UNITS





# ACMO DRY-EX® LIQUID CHILLERS for efficient performance



The straight as an arrow full size tubes of Acme-originated Dry-Ex Liquid Chillers have no curves, no bends, no welds. With multipass heads at each end of the tubes, a clear, unobstructed passage is provided for high velocity flow of refrigerants. The above features provide maximum heat transfer area for guaranteed efficiency and compactness. Oil return is positive. Refrigerant tubes are cleanable. Individual tubes can be replaced if rupture is ever caused through system control failure.

Other features include factory specified baffle spacing to fit job requirements exactly. Cast steel refrigerant heads are stocked in a range of perfected pass designs to solve all types of single and multiple-circuit needs.

Dry-Ex Chillers are made in 1 to 200 ton capacities, with over 700 baffle and shell combinations available. Acme, original manufacturer of direct expansion type chillers 18 years ago, produces more Dry-Ex type liquid chillers than all other manufacturers combined.

### Dry-Ex is Serving Firms Like These —

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Container Corporation
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Giddings & Lewis
Gates Rubber Co.
Raytheon Co.
Ohio, Edison, Co.



Acme Cooling Towers and Evaporative Condensers



Flow-Therm®
Packaged
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Chillers



Flow-Cold ® Packaged Liquid Chillers



Write for new Acme Dry-Ex Catalog.

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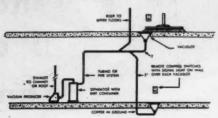
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WASHINGTON, Seattle	
Frank OzanneSEneca	2377
WASHINGTON, Spokane	
Hobart Teneff	9052
WASHINGTON, Tacoma	
H. F. WarrenMArket	4281
CANADA, Montreal	

### A PRODUCTS

(Continued from page 266)

### HOSPITAL EQUIPMENT

• A hospital bed which features bathroom facilities in the bed, fingertip pushbutton control, head and knee lifts, elevation variable from 23 to 32 in. from the floor, a self-contained hospital cart, a retractable trapeze, and a self-contained adjustable tray with 500 cu in. of space for the patient's personal items is available in the Beem bed. Darlington Co., 11702 Mississippi Ave., Los Angeles 25, Calif.



• A vacuum cleaning system for cleaning dust mops, hand dusters, dust rags, throw rugs, etc., consists of metal plates located on the floor over pipes connecting with a vacuum system in the basement. When the cleaning utensil is passed over the slot, all the dirt and dust is drawn into the piping system. The Vacuslot System is practical for hospitals, schools, office buildings and other types of buildings. A Mop-Vac is a cabinet-type dry-mop cleaner which operates on the same principle. The Spencer Turbine Co., Hartford 6, Conn.



• Square sterilizing equipment increases usable sterilizer capacity, says the manufacturer, by 35 to 100 per cent, depending upon the type of load, compared with the conventional cylindrical sterilizer. Available in recessed and cabinet mounting, the square sterilizer cabinet can be used wherever open-mounted equipment is normally installed. American Sterilizer Co., Erie 6, Pa.

(Continued on page 276)

# 9 reasons

# why Sedgwick ROTO-WAITERS

2-stop automatic dumb waiters serve in America's finest buildings

Overload and slack cable safety device
Simple motor, brake and control, cut costs

Adjustable landing cam assures accurate stops

Endless steel roller chain drive. Never overtravels

Completely factory assembled and tested. Easy to install

Steel guide rails and flexible steel traction cables for car and counterweight

Reinforced steel car.

Momentary-pressure pushbutton ... fully automatic operation

Only minimum clearances required

Available in standard and special sizes.
Also multi-stop dumb waiters.

Write for illustrated booklet on Sedgwick Dumb Waiters and Doors

Sedgwick MACHINE WORKS
142 WEST 15th ST., NEW YORK 11, N. Y.
Specialists in Vertical Transportation Since 1893









# SYMBOL OF THE STANDARDIZATION YOU ASKED FOR

This "CI" insignia on cast iron soil pipe and fittings is your assurance that the product meets the standards of weights, dimensions and laying lengths of the Cast Iron Soil Pipe Institute . . . standards which the plumbing industry asked for.

This "CI" insignia represents the results of years of effort by all branches of the industry. State, regional and national groups and associations requested the Institute to bring about the standardization of cast iron soil pipe

and fittings. With the full cooperation of all segments of the industry, and the help of the Commodity Standards Division of the United States Department of Commerce, such standards were adopted. This "CI" symbol on soil pipe and fittings means interchangeability—that "CI" labeled products of any manufacturer will member with "CI" marked patterns of any other producer. This means a saving in time and money. This will benefit the architect, builder, wholesaler, contractor, plumber, inspector and owner.

This "CI" insignia is your assurance of quality, uniformity and permanence. Specify and use "CI" soil pipe and fittings.



### CAST IRON SOIL PIPE INSTITUTE

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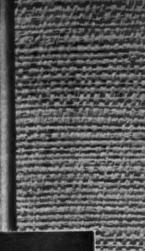
### handsome treatments with

### VICRTEX V.E.F.\* FABRICS



cure high maintenance costs in **HILLSIDE HOSPITAL'S** new \$1,000,000 units

MADAGASKA





VICRTEX Bambu and Madagaska selected with foresight by Louis Allen Abramson, architect, handsomely complement Auditorium walls in the Elizabeth Lowenstein Clinic (above) and the Israel Strauss Pavilion at HILLSIDE HOSPITAL



SAFARI



CORONATION

At Hillside...where attractive environment is part of the cure...where every installation must withstand devastating wear...Architect Louis Allen Abramson specified VICRTEX V.E.F.\* FABRICS. Their ability to stand up under hard use, even abuse, is invaluable where accommodations must remain "in service" at all times.

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- PRACTICALLY INDESTRUCTIBLE—Impervious to sun, salt, damp, cold, heat, wind, rain. Cannot snag, chip, crack, peel or scratch.

  Stain-flame-soil resistant—wipes clean with damp cloth.
- VERSATILE—SOFT—PLIANT—Wall or furniture covering can be draped, folded, pleated—applied to any flat or curved surface.
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# \*Wolmanized

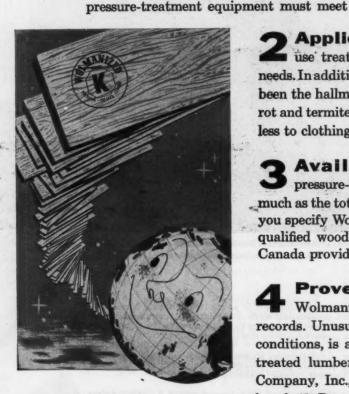
LUMBER

### a uniformly treated product

... alone combines these four major advantages

The uniform, unvarying standards of treatment that are characteristic of Wolmanized clean pressure-treated lumber begin with the production of the preservative chemical itself. Controlled by a single exacting standard, Wolman brand preservative never deviates from its chemical formula. And the high-pressure treatment process by which Wolman salts, in solution, are driven deep into wood is also completely controlled, always the same. Retorts and other

strict Koppers requirements before a preserver is licensed to produce Wolmanized pressure-treated lumber. Since the preservative is forced deep into the fibers of the wood by pressures up to 150-p.s.i., equipment must have at least that capacity before approval is granted. Thus, from all 14 sources operating 24 pressure-treatment plants, Wolmanized clean treated lumber is always the same. Wherever you specify, use or buy Wolmanized lumber you are assured that uniform treatment is providing a product with undeviating quality.



Application versatility. Wherever you use treated lumber, Wolmanized lumber will fill your needs. In addition to the application versatility that has always been the hallmark of wood, Wolmanized lumber is deadly to rot and termites, clean, odorless, completely paintable, harmless to clothing and skin, and noncorrosive to metal fittings.

Available anywhere. 47% of all clean pressure-treated lumber is Wolmanized . . . nearly as much as the total output of all other sources combined. When you specify Wolmanized lumber, delivery is certain, since 24 qualified wood preserving plants in the United States and Canada provide coast-to-coast distribution.

4 Proved dependability. Dependability of Wolmanized lumber is documented by actual service records. Unusually long life, even under the most adverse conditions, is another advantage of Wolmanized pressure-treated lumber. For further information write: Koppers Company, Inc., Wolman Preservative Department, Pittsburgh 19, Pennsylvania.

\*"Wolman" and "Wolmanized" are registered trademarks of Koppers Company, Inc.



Pressure-Treated

Wolmanized

LUMBER



THE big picture tells the story. A standard PC Functional Glass Block is at the left. But at the right, you see the new PC Suntrol Block that contains a pale green fibrous glass diffusing screen to reduce glare and heat in unusual daylighting locations.

The photocell in front of the conventional glass block reads 57, but for the Suntrol Block it reads only 33. If you have to erect a building with an exposure in the dazzling, unshaded sun, or near a highly reflective parking surface, or even where the bright winter snows create a bad reflection, PC Suntrol Blocks will give wonderful daylighting, without excessive panel brightness.

The new PC Suntrol Blocks have also set a record for low instantaneous heat gain. It has been reduced by roughly 25%. The pale green screen creates an additional psychological comfort factor too, but the color has been carefully chosen so it will not alter the apparent color of furnishings. This new block also has twice the impact strength of previous blocks.

PC Suntrol Blocks are available in light directing patterns (for use above eye level), as well as light diffusing and toplighting patterns. Write for the Suntrol catalog. Address Pittsburgh Corning Corporation, Dept. C-104, One Gateway Center, Pittsburgh 22, Pennsylvania.

### PC Suntrol\* Glass Blocks



ALSO SKYTROL® AND FOAMGLAS®

\*PC Trade Mark

### MODERN LIVING

requires modern bathing



The pace of modern living is reflected in the design of modern homes...
functional, labor-saving, yet completely comfortable. These modern
homes, this modern living, require the modern way of bathing; the
shower. You can satisfy this important requisite economically with
FIAT, the packaged shower with the PreCast Receptor! The sleek corner
Cadet model pictured above is one of the beautiful, permanent FIAT
showers. It virtually tucks away in a corner... occupies minimum
space while providing a roomy bath. A FIAT shower will enhance the
value—improve the appearance of any home... satisfies the modern
family's demand for bathing the modern way. In your specifications,
include FIAT showers... the one single item that will upgrade your
homes most for the money invested.

send for new full-color catalog – or see Sweet's

AMERICA'S LEADING MA



SHOWERS, EST. 1922

### FIAT METAL MANUFACTURING COMPANY

Three Complete Plants - Economy • Convenience • Service

LONG ISLAND CITY, N. Y. • FRANKLIN PARK, ILL. (CHICAGO SUBURB) • LOS ANGELES, CALIF. IN CANADA: FIAT PRODUCTS ARE MADE BY PORCELAIN AND METAL PRODUCTS, LTD., ORILLIA, ONT.

### A 13 PRODUCTS

(Continued from page 271)

### LIGHTING

- Color-corrected fluorescent lighting uses a new type of phosphor in the lamp which adds nearly 40 per cent more red, simultaneously suppressing some of the blue-green abundant in other fluorescent lamps. Called Super DeLuxe Cool While, the new light was designed for retail use so that colors will not take on a different hue. Sylvania Electric Products, Inc., 1740 Broadway, New York 19, N. Y.
- A dimmer for regulating the brightness of fluorescent lamps will control the light output of up to twenty 40-watt rapid-start lamps at one time. The new system employs the use of a simple electrical control device of the type commonly available for dimming incandescent lamps or regulating the speed of motors, in combination with a rapid-start ballast. General Electric Co., Cleveland, Ohio.



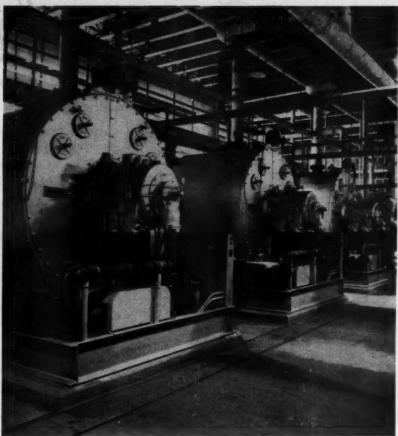
- Luminaires for corridor lighting provide glare-free light for safe illumination of corridor traffic areas. The C-824 redirects useful light up to the ceiling and across to the walls as well as down to the floor. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.
- Metal pole luminaires with the Thompson disconnecting and lowering hanger mechanism permit safe ground-level maintenance. The "Servisafe" metal pole units are recommended for streets, parkways, shopping centers, athletic fields, service stations and parking lots. The Thompson Electric Co., 1112 Power Ave., Cleveland 14, Ohio.

### TELEPHONE BOOTH

• A telephone booth that encloses only the head and shoulders of the user but is claimed to excel in acoustics is 36 in. high and triangular, enabling two to be installed in a corner where ordinarily only one box-type unit would fit. Burgess-Manning Corp., Chicago, Ill.

(Continued on page 280)





### Modern Powermasters Save in Many Ways!

FOR EXAMPLE: The new 240-bed Druid City Hospital, Tuscaloosa, Alabama, designed its steam system with three 300 HP gas-fired Powermaster Packaged Automatic Boilers. Light oil is provided as stand-by fuel.

Powermaster savings start with simplified installation. No special foundation or costly stack is needed. As delivered, Powermasters are factoryassembled and fire tested, fully equipped and wired ready for operation as soon as fuel, water, electrical and steam connections are

made. Other savings are high fuel economy at all loads, compactness, maintenance-saving accessibility, dependable performance, timesaving attention, fully automatic operating and safety controls, smokeless combustion and hospital-clean operation.

Prove for yourself that steam costs do go down where Powermasters go in. Compare Powermaster, feature by feature, and see why it is preferred by modern hospitals all over the world.



PACKAGED AUTOMATIC BOILERS

In sizes to 500 HP; pressures to 250 psi.



& SEMBOWER, INC. Morgantown Road, Reading, Penna.

# TO WILLIAM GINSBERG ASSOCIATES: Consulting Engineers of New York City

New home of The Akron Beacon Journal in Akron, Ohio

Here the architects have provided a striking combination of old and new. From the truck-loading dock to the rear of the building is an entirely new addition which duplicates the exterior design of the older structure.

This new section, which will house all mechanical operations of the newspaper, is connected at basement and second floor levels to allow the loading dock, and a public street, to pass completely through the building. The present quarters will be expanded and modernized to contain all business, advertising, editorial and executive departments. Finally, a tunnel will be built beneath street level, between the new building and a railroad freight station, to facilitate the handling of newsprint.

Throughout the design and construction of this project, not only has efficiency and accessibility been stressed, but the comfort of Beacon Journal employes has, also, been a prime consideration.

Westinghouse is proud to have its Water Coolers installed for the health and efficiency of the personnel of this progressive newspaper. These coolers will continue to give longer life with less maintenance and lower operating costs than any other water cooler on the market today.

MODEL WW20B...has a 20-gallon per hour capacity. Thermoguard® protects motor against damage from overloads and low voltage. Standard equipment includes stainless steel top, foot-pedal and finger-tip button controls.









WA17B 17-Gallon, Air Cooled



Industrial plants choose Westinghouse.

More architects are specifying Westinghouse Water Coolers than any other cooler on the market. Management knows, that when making a water cooler investment, it will get more for its money with an always reliable Westinghouse—the leader of the industry.

plants of every size and type select Westinghouse for lower operating costs and least servicing—assured by such exclusive features as: a sealed water circuit . . . no valve stem packing to leak, dual electric control (for finger-tip and toe-tip operation) at no extra cost, patented Pre-Cooler and Super Sub-Cooler. All these economy and convenience features can only be found on Water Coolers by Westinghouse—the leader of the industry.

choose from 13 available models with capacities of from 1 to 20 gallons. Whether you specify a bottle cooler or a pressure cooler, a compartment cooler or a remote cooler, look to Westinghouse—the leader of the industry.

Westinghouse has developed the Pay-Way Plan to help industry save many wasted payroll dollars every year. This ingenious formula proves that the proper placement of water coolers in relation to work areas provides heretofore unthought-of savings. The Pay-Way Plan is another progressive service by Westinghouse—the leader of the industry.

### SEE THE NEW PAY-WAY COMPUTER

Designed to save time in making calculations and to aid in specifying the number, type and location of water coolers for your clients. Check the yellow pages of the telephone directory for your nearest Westinghouse Water Cooler distributor . . . or drop us a line.



### YOU CAN BE SURE ... IF IT'S Westinghouse

WESTINGHOUSE ELECTRIC CORPORATION
Electric Appliance Division • Springfield 2, Mass.

WSEBB 8-Gallon, Static Air Cooled Explesion-Proof

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WWE148 14-Gallon, Water Cooled Explosion-Proof



WAC2 Compartment Pressure Cooler



WAP7A 7-Gallon, Remote Cooler



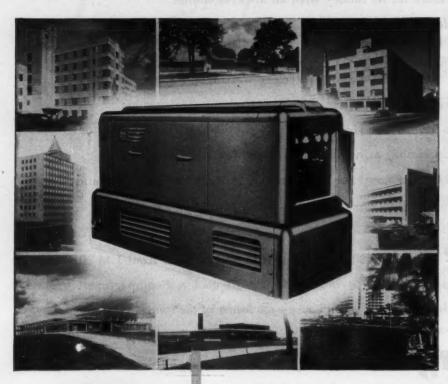
WWP13 13-Gallon, Remote Cooler





### ONAN Standby Electric Power

### for any building you design . . .





Model 305CK - 3,500 watts A.C.



Medel 10CW -10,000 watts A.C.



Model 25HN -25,000 watts A.C.



Model 50KA -50,000 watts A.C.

Even the most modern buildings become unsafe when electric power is interrupted. Lives and property are endangered.

With an Onan Standby System, any interruption of highline electricity automatically starts the emergency electric plant and within seconds all essential equipment is operating normally. In many instances just one power interruption will justify the cost of the standby power installation.

Hospitals, homes, schools, churches, hotels, radio stations, stores, offices... all modern buildings need standby protection. Onan builds units to meet any requirement.... 1,000 to 50,000 watts, gasoline engine powered.

Write for Architects' Kit SP-1021
Contains specifications for all standby models and information on installation.

### D. W. ONAN & SONS INC.

7386 Univ. Ave. S.E., Minneapolis 14, Minnesota



First...in Standby Electric Power

### A THE PRODUCTS

(Continued from page 276)

### PAVING COMPOUND

 A paving compound of lime and fly ash composition will be used in a 3000-ft runway at Wings Field in Ambler, Pa.

Poz-O-Pac is distributed through churned-up earth to a depth of about 10 in. and then compacted. The result is a "rigid, freeze-and-thaw resistant, freedraining material . . . a natural cement." G. & W. H. Corson, Inc., Plymouth Meeting, Pa.

### WASHSTANDS

• Circular washslands and foot-operated lavatories are offered by Kohler.



The circular washbasin accommodates eight persons, with separate faucet and spraying facilities for each, and has an 8-in.-deep basin.



The lavatory faucets are activated by depressing a small metal plate on the floor. A pushbutton on the left operates a soap dispenser. Kohler Co., Kohler. Wio

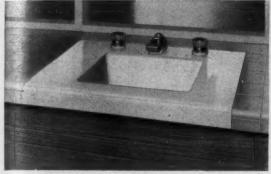
### SLIDING CLOSET DOORS

• Esco sliding closel doors are made of Novoply or birch-veneered Novoply core, a flat paneling material, with a steel channel along the edge. The manufacturer claims that these doors, which are available in all sizes, will not warp. Engineering Sales Co., 550 McNeilly Rd., Pittsburgh, Pa.

(Continued on page 284)

# ANY WAY YOU LOOK AT IT— CRANE CAN HELP YOU

When asked to name a preference in plumbing, most people choose Crane. In fact, on all counts—design, quality, workmanship and long life—



Crane Criterion lavatory, styled by Henry Dreyfuss, either fits into counter-top or stands alone on brush-finish chromium-plated legs. Dial-ese controls, Securo waste, choice of eight Crane colors. Two sizes: 21½″ x 17¾″ and 30¼″ x 22″.

Crane is the preferred plumbing.

Naturally, Crane is the choice of leading architects, too. When you recommend Crane you can be sure your clients will be pleased with its modern styling, its easy and dependable operation.



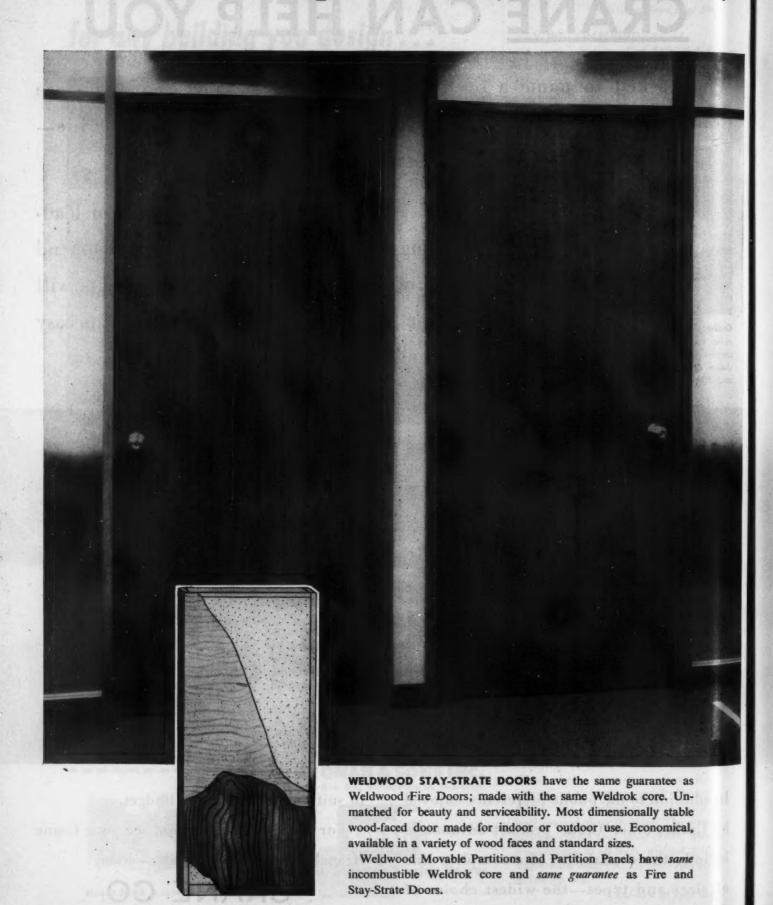
In addition to the public preference enjoyed by Crane, other Crane product advantages include the availability of a complete line of sizes and types—the widest choice of modern plumbing fixtures, trim and colorto suit any plan and any budget.

For detailed information, see your Crane
Branch or Crane Wholesaler—today.

CRANE CO.

GENERAL OFFICES: 836 SOUTH MICHIGAN AVE., CHICAGO 5 VALVES... FITTINGS... PIPE... PLUMBING AND HEATING

# A new concept of safety with beauty



282 ARCHITECTURAL RECORD OCTOBER 1954

### . . WELDWOOD FIRE\* DOORS

### with a new incombustible mineral core—

### WELDROK®

Strong, light-weight, solid-core Weldrok construction now gives Weldwood Fire Doors even greater degree of fire protection. Backed by the most outstanding guarantee in the industry. Yet they cost no more!

Weldwood Fire Doors have an unmatched record for absolute safety and dependability under every type of service condition. That is why for years they have been standing guard in leading hospitals, schools, business institutions and better built homes.

OUTSTANDING FIRE PROTECTION. Weldrok, the important new safety feature of Weldwood Fire Doors, was developed and is being manufactured exclusively by the United States Plywood Corporation. Weldrok is an inert, incombustible mineral core material offering a higher degree of fire protection, plus higher insulation value. Weldrok helps keep the door straight and true for the life of the installation. Weldwood Fire Doors with new Weldrok core are listed by the Underwriters' Laboratories for Class "B" and "C" openings.

outstanding beauty. Weldwood Fire Doors have long been known for their beauty as well as safety. They are available in a wide variety of handsome hardwood faces... birch, walnut, Korina<sup>®</sup>, rift oak and in almost any exotic wood veneer you may want to specify. Furnished in standard sizes with special sizes and cutouts to order. If you are planning to install wood paneled interior walls, doors can be ordered with faces made from matching veneer flitch.

OUTSTANDING GUARANTEE. Weldwood Fire Doors have the most sweeping guarantee in the industry. Read it and see for yourself! Every word of it is backed by the United States Plywood Corporation, world's largest plywood organization.

For further information consult with your lumber dealer or contact the architects' and builders' service section at any of the 73 United States Plywood or U.S.-Mengel Plywoods distributing units in principal cities, or mail coupon.



### Weldwood

FIRE DOORS AND STAY-STRATE® DOORS

United States Plywood Corporation
World's Largest Plywood Organization

U.S.-Mengel Plywoods, Inc., Louisville, Kentucky In Canada, Weldwood Plywood Ltd., Montreal and Toronto

# WELDWOOD Fire DOOR GUARANTEE

United States Plywood Corporation unconditionally guarantees the Weldwood Fire Door, if properly installed, against warping, twisting, or manufacturing defects for the LIFE OF THE INSTALLATION. If any Weldwood Fire Door should fail to meet these standards, we will replace said door without charge, including all labor costs of hanging and refinishing.



UNDERWRITERS' LABEL ON EVERY DOOR. Weldwood Fire Doors are listed with the Underwriters' Laboratories, Inc., for Class "B" and "C" openings. The door has been thoroughly tested both for fire resistance and structural integrity.



weldwood fire door features • Bears Underwriters' label • Doors are edge-banded with solid hardwood treated with class "A" fireproofing agent • Incombustible Weldrok core • Crossbanding is 1/16" hardwood veneer permanently bonded to core with waterproof resin glue • Face Veneer: Birch is standard; any wood face available on order.

\*U. S. PAT. NO. 2593050

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Please	send me	complete in	formation	on Weld	wood Fire	and Stay
Strate	Doors.				351LU	AR-10-5
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HOSPITAL TIME AND SIGNAL EQUIPMENT

Audio-Visual
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most advanced audio-visual nurses call system. Automanual and manual control.

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### STROMBERG TIME CORPORATION

Subsidiary of General Time Corporation THOMASTON CONNECTICUT

### PRODUCTS

(Continued from page 280)

### FABRICS

· Drapery and upholstery fabrics designed for the fall market include new fabrics, new weaves, brilliant coloring and designs of modern, abstract, impressionistic, Oriental and traditional patterns. Desley Fabrics, 40 East 34th St., New York, N. Y.

### THERMOSTATIC CONTROLS

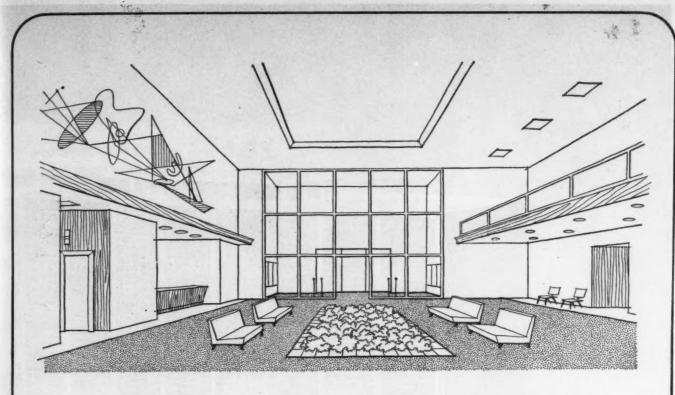


· A heating control system has been developed for use in schools to give teachers control over temperatures in their own classrooms and, at the same time, to permit the principal to maintain pushbutton supervision over conditions in all classrooms. Thermostats in each classroom are wired to a master control monitoring panel installed in the principal's office. By pushing a button he can read the temperature in any classroom at any time. The system also includes a firedetecting element and relay which sounds an alarm and indicates on the master control panel the exact location of a blaze anywhere in the building. Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.



· An electronic limit controller, the 700 Series Limitrol automatically shuts off fuel supply at any specified temperature manually set on the indicating scale and, if so desired, sounds an alarm. Barber-Colman Co., Rockford, Ill.

(Continued on page 288)



# Why not add a comprehensive Engineered Color Study to your plans?

**TODAY**, nearly everyone who owns or operates an industrial, commercial or service enterprise recognizes the importance of the effect of color environment on people.

• You can often make your plans more acceptable to clients by including a detailed color program. Why not let us submit engineered color recommendations to go with your plans? These recommendations are based upon the principles of COLOR DYNAMICS, Pittsburgh's modern painting system which has demonstrated its ability to improve productive efficiency, morale and well-being in many fields.

• We'll be glad to make such a detailed study without cost or obligation to you. Simply call your nearest Pittsburgh Plate Glass Company branch and arrange to have one of our color experts see you at your convenience. Or mail this coupon.

Additional information on COLOR DYNAMICS in Sweet's Architectural File, Section 14/PL



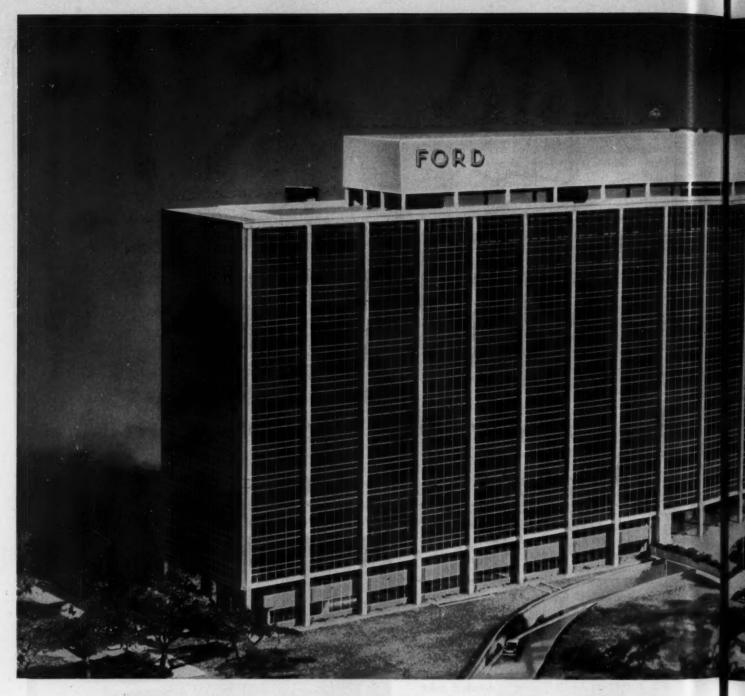
Engineered color recommendations, complete with color samples are bound in booklet form. Also included are suggestions for the correct types of continus for every kind of material and construction.

# PITTSBURGH PAINTS

Pittsburgh Plate Glass Company Paint Division, Dept. AR-104 Pittsburgh 22, Pa.
Gentlemen
Please have your representative provide us with further information about Pittsburgh's Free COLOR DYNAMICS engineering service for architects.
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NAME
ADDRESS.

ITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITEE



### Ford Motor Company, Central Staff Office Building, Dearborn, Michigan.

Architects:

Skidmore, Owings & Merrill, New York, Chicago, San Francisco

**General Contractors:** 

Bryant & Detwiler Co., Detroit

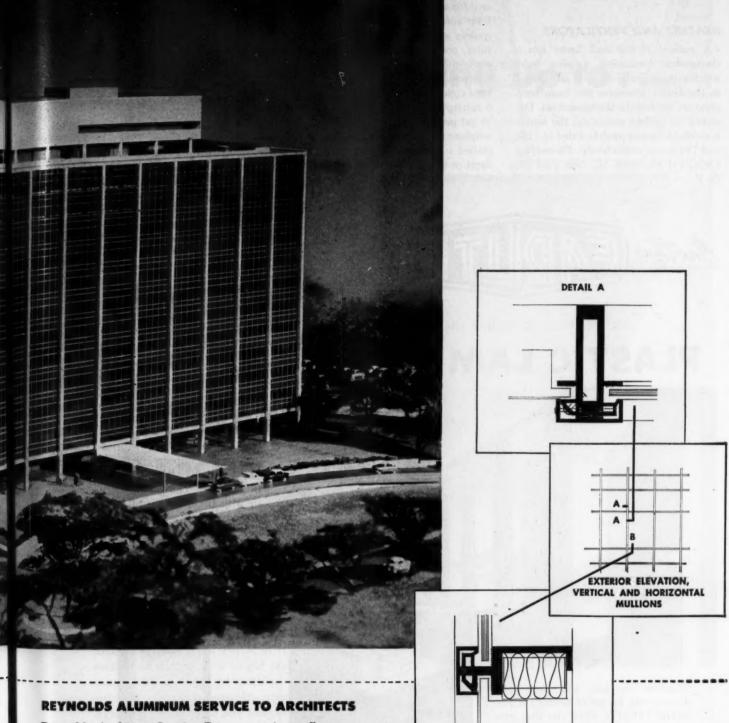
Architectural Aluminum Fabricators:

Moynahan Bronze Co., Inc., Detroit

### **Aluminum Applications In This Building:**

Copings • Fascia • Stair Rails • Column Covers
Vertical and Horizontal Mullions • Louvers • Interior Trim

### REYNOLDS



Reynolds Architect Service Representatives offer specialized assistance on aluminum design problems, on applications of standard aluminum mill products, and on the use of commercially fabricated aluminum building products. They can help to coordinate varied aluminum requirements for procurement efficiency and economy. Please address inquiries to...Architect Service, Reynolds Metals Company, Louisville 1, Kentucky.

SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network.

DETAIL B



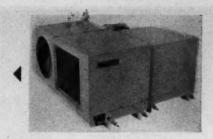
ALUMINUM

(Continued from page 284)

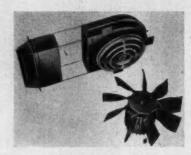
#### HEATERS AND VENTILATORS

• A radiant electric wall heater has a thermostat containing a pilot light which automatically cuts off all current to the heater whenever the room temperature reaches the thermostat set. Designed for surface mounting, the heater is available in two models, rated at 1250 and 750 watts, respectively. ThermoRay Corp., 141 East 44th St., New York 17, N. Y.

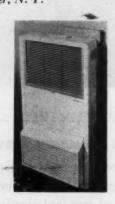
• The Temptron home air-conditioning unit for a five- to six-room house uses a 1-hp compressor to deliver 2 tons of cooling and, according to the manufacturer, consumes 30 to 50 per cent less electricity, operates at 40 per cent less cost and is priced 10 to 20 per cent less than comparable air-cooled units. Water consumption is claimed to be less than 10 gal per hr. The unit, 21 in. high and weighing less than 300 lb, can be installed in an attic, crawl space, basement or storage room. Ultrasonic Corp., 640 Memorial Drive, Cambridge, Mass.



• A new model gas-fired winter air conditioner, the Budgeteer, Type SV-36-G, is recommended for small homes with limited floor space. With a capacity of 70,000 Btu per hour input, it is fully automatic and equipped with a low-speed blower to send a continuous, gentle flow of warm air at any desired temperature into each room. Richmond Radiator Co., P.O. Box 111, Metuchen, N. J.



• Fasco, the 10-in. Model 1021 Ceil-N-Wall rentilating fan, with a 9-petal turbo-radial impeller, will deliver 530 cfm at the highest of three speeds through 10 ft of duct. The fan reportedly moves air with the quietness of a blower and the capacity of a propeller and can be used either in ceiling, cabinet or inside wall installations. Fasco Industries, Inc., Rochester, N. Y.



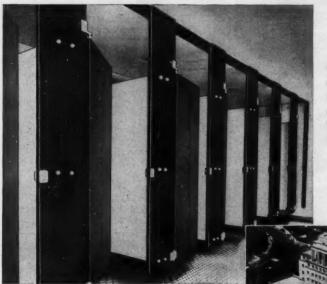
• An optional fan assembly can now be added to any of the three models of Saf-Aire gas wall heaters. The fan assembly, consisting of a 7-in. five-bladed fan mounted on rubber, an automatic control with adjustable range, and the necessary wiring, including an 8-ft extension cord, can be snapped into the wall heater easily. Stewart-Warner Corp., U. S. Machine Division, Lebanon, Ind.

(Continued on page 294)



... AS SPECIFIED, TO INSURE THE VERY BEST IN

## PLASTIC LAMINATES



FARLITE PLASTIC DOORS
IN WASHROOMS AT
HEAD OFFICE OF
MANUFACTURERS LIFE
INSURANCE COMPANY,
TORONTO, CANADA

Whatever the job, you (and your clients) will be better satisfied if you specify FARLITE when you plan new construction or remodel present facilities. It's the very best in plastic laminates for partitions and paneling... for counter, table and bar tops... for a host of other uses. Its glass-smooth surface is easy to clean, permanently beautiful... resists heat and burning cigarettes... is not affected by alcohol, grease, mild cleaning solutions... will not chip or fade.

The Farlite laminated plastic chosen for this large office building installation is the same Farlite used in residential, commercial and industrial installations everywhere. Available in a wide range of colors and patterns in sheetstock or made up in 5-ply panels to your specifications.

Write for descriptive folder and name of nearest distributor.

Plastics Division, FARLEY & LOETSCHER MFG. CO., Dubuque, Iowa

# worthlookin

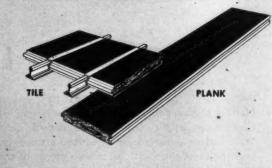
ROOF PLANK . . . TILE

Tectum texture challenges design and decorative concepts. At close range or at normal building distances, its textural scale persists. Swirled fibrous surface lends distinctive decor and invites close acquaintance.

Tectum® products are your opportunity to utilize this texture with a combination of attributes never before available.

Either Tectum Roof Plank or Tile allows versatility of design in a single layer deck at less cost. Look at these properties: acoustical, insulative, non-combustible, structural, stable, light-weight, termite and fungus proof.

TECTUM TEXTURE



SEE IT . NOW!

Ask for sample and catalog, or refer to Section Te/2e,

105 SOUTH SIXTH STREET

TECTUM CORP.

Dept. # 105, 105 South Sixth Street, Newark, Ohio

\_ Send sample and catalog.

\_ Send catalog.

Address \_ City \_

\_ Zone \_\_\_\_ State \_



## Clear Case for Lighting by Litecontrol-

Neither shadows nor glare mar this modernized Superior Court room in New Britain, Connecticut. LITECONTROL 5628 surface-mounted fixtures blend attractively with the appearance of the room, fill it with plenty of comfortable, low-brightness light.

Holophane lenses direct the high-intensity light for maximum comfort. Diffusing glass side panels throw some light on the ceiling to minimize contrasts. Lenses are easily removed from below for cleaning the fixtures or replacing tubes.

This rugged semi-direct fixture is simple to install, either individually or bolted together in rows. Like all LITECONTROL fixtures, it may be modified, or combined with others, to make truly custom lighting for many different interiors.

For every job, LITECONTROL means custom lighting at standard fixture prices. . . . Call your local LITECONTROL representative.

INSTALLATION: Superior Court, New Britain, Conn.
ARCHITECT & ENGINEER: Mendel Baldessari
CONSTRUCTION: Bessoni Bros., New Britain, Conn.
ELECTRICAL: Grem Electric Co., New Britain, Conn.
FIXTURES: Litecontrol No. 5628
LAMPS: Standard Cool White
SPACING: 8' on centers
CEILING HEIGHT: 12'
FLOOR: rug is Beige, linoleum is Jaspe
WALL: birch plywood, stained mahogany
CEILING: acoustical tile
INTENSITY: 75 Footcandles average in service



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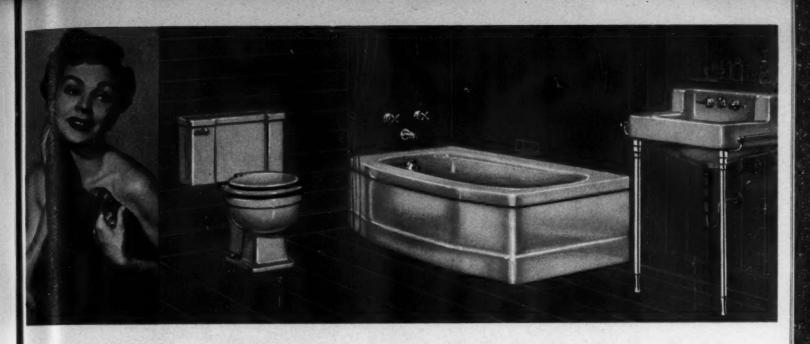
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add

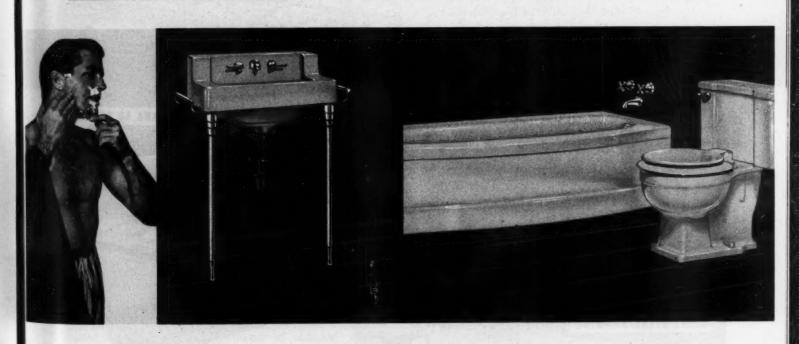
seco

LITECONTROL CORPORATION
36 PLEASANT STREET, WATERTOWN 72, MASSACHUSETTS

DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS



# It's so much easier to sell a home with two bathrooms of BRIGGS BEAUTYWARE!



Prospects getting choosey? Sales a little harder to close? Smart builders and architects nowadays are making their sales job easier by including two Briggs Beautyware bathrooms in all their homes!

No other feature adds more to a new home. There's extra value—extra sales appeal—at a cost that's actually very small, considering the additional profit you stand to gain. And the second bath adds so little extra to monthly mortgage payments that you can offer this

big plus feature while keeping your homes competitively priced.

All of your prospects will be impressed by two bathrooms—even more so by handsome Briggs Beautyware. You can give them their choice of the four beautiful Briggs pastel colors—Coral, Sandstone, Sea Green or Sky Blue—in addition to sparkling white.

Let this low-cost luxury help sell your homes. Always specify two sparkling Briggs Beauty-ware bathrooms in color! National Magazine advertisements like this one are carrying the Briggs Beautyware story to millions of American readers. Besides selling Briggs fixtures in beautiful color, these eyecatching ads are urging potential customers everywhere to demand the convenience of two Briggs bathrooms!



BRIGGS MANUFACTURING COMPANY . DETROIT 26, MICHIGAN

BRIGGS



FLAT TRUSSES AND PURLINS BOWSTRING TRUSSES

# MACOMBER ENGINEERS OVER ON YOUR SIDE

Here's engineering and fabricating capacity plus the type of seasoned structural experience that goes direct to the problem that was yours.

The solution—the bid—will be the BEST of several ways your structure could be framed.

Lay your steel framing problems in our lap. No name in the business has more universal acceptance.





ORIGINATORS OF THE

STANDARDIZED STEEL V BAR JOISTS . LONGSPANS



RIGID FRAMES

STEEL TRUSSES . STEEL DECK

OPEN WEB STEEL JOIST

► MACOMBER INCORPORATED ■

CANTON 1, OHIO

ENGINEERING - FABRICATING AND ERECTING -



# DuPont saves 57,000 a year

with just partial modernization of coal burning equipment

The boiler plant at DuPont's Barksdale Works was operating inefficiently, due to an old forced draft system and unwieldy combustion control. DuPont engineers decided to modernize these operations, estimating that the cost would be amortized quickly through the increase in efficiency. An up-to-date draft fan and automatic combustion control system were installed. Today savings of \$7,000 annually have been realized—a gross return on the investment of 140%! Not only has the new equipment paid for itself in one year, but it has produced the additional advantages of reduced ash-pit

losses, lowered maintenance costs, increased steaming capacity.



More and more plants are saving thousands of dollars yearly burning coal the modern way. The reasons are obvious. In most industrial areas, coal is the cheapest fuel available. Not only do you actually get more BTUs per dollar from coal, but the efficiency of modern combustion equipment extracts even more benefit from coal's inherent energy. What's more, today's automatic coal and ash handling methods mean minimum labor costs. Coal is clean, too. It travels in dust-tight chutes; ashes are piped out through pneumatic tubes; there is no smoke problem. And between our vast coal reserves and highly mechanized coal production, you can count on coal remaining plentiful and its price remaining stable.

#### **Investigate Fuel Costs**

If you're planning to modernize your old plant or build a new one—or if you are just interested in cutting fuel costs—find out how coal burned the modern way compares to other fuels for your plant. Talk to a consulting engineer or your nearest coal distributor. Their advice may save you thousands of dollars every year.



Control Board at Barksdale Works. Steam generating equipment consists of four 15,000 lb./hr. 150 psi stoker-fired boilers.



#### BITUMINOUS COAL INSTITUTE

A department of National Coal Association-Southern Building, Washington 5, D. C.

For further information or additional case histories showing how other plants have saved money burning coal, write to the address above.

### A 1 PRODUCTS

(Continued from page 288)

#### AUTOMATIC WASHER

Look for this

name plate.
It is your
guarantee of
protection on a
Jenn-Air

Exhauster motor

• An automatic washer, Model 451, features a water temperature selection control, allowing the homemaker to rinse clothes in hot, warm or cold water. Another feature is the "short wash cycle" which washes, rinses and spin-dries a full load of clothes in 18 min, using only 5 gal of hot water. The new automatic is 36 in. high, 25 in. wide and 261/4 in. deep. Thor Corp., Chicago, Ill.

#### ROOF SYSTEM

• A structural roof system consists of porcelain, aluminum or galvanized steel panels securely anchored to a precisionaligned grid of sub-purlins. The sub-purlins are welded to building purlins, and the panels are then dropped into place and secured by slide-on clips. Despite full freedom for expansion and contraction of panels, Ingersol Roof Deck is said to offer a new high in rigidity and strength at 8-ft spans. Reflectal Corp., 310 So. Michigan Ave., Chicago 4, Ill.



INSTITUTIONAL DOOR

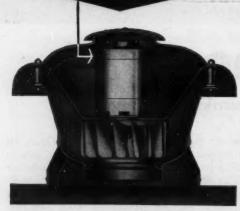


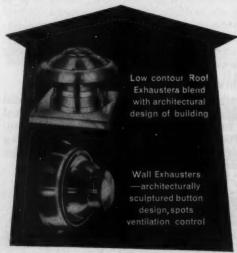
• An institutional door, manufactured with a core of cylindrical fiber columns, claims heavy duty strength through the use of three-ply balanced face panels, hot-plate-pressed with core and frame into one integral unit. The top and bottom rails are 10 in. wide with an extra center cross rail and two 40-in. lock blocks which furnish space for installing panic bars, large locksets and heavy door pulls. General Plywood Corp., Louisville, Ky.

# Set it... forget it for 10 YEARS

Now Jenn-Air Low Contour Exhauster Motors are Lubricated for 10 Years of Service

Once a Jenn-Air Exhauster is set in a wall or on a roof, you can forget maintenance, because the motor is lubricated for 10 years of normal service. Since the bearing is the heart of any motor, you know this vital part is adequately protected in a Jenn-Air Exhauster. This is another feature by Jenn-Air, which has been FIRST with spun aluminum, rust-proof construction, no painting necessary; FIRST with simplicity of installation and ease of cleaning. Exclusive dual low-contour design means beauty that blends with today's modern architecture. It means fitting ventilation needs to the building which adds up to savings in labor and maintenance. Consult Jenn-Air Ventilating Specialists on ventilating problems.







#### JENN-AIR PRODUCTS COMPANY, INC.

Architects & Builders Building Indianapolis 4, Indiana

lenn-Air Products Com Architects & Builders Indianapolis 4, Indiana	pany, Inc. Building,
Please send me your f	
Name	
Title	
Company	
Address	
City	State

AIR DIFFUSER



• Circular air diffusers have built-in segmentized air controllers which produce any angle of air discharge from above horizontal to vertical without disturbing the relative position of the aluminum spinnings. Adjustments can be made after installation. Non-adjustable units are also available. Air Devices Inc., 185 Madison Ave., New York 16, N. Y.

(Continued on page 298)

# SPECIFIED

MOTOR FREIGHT, INC., Terre Haute, Ind.

Architect: Weber & Curry, Terre Haute, Ind. Lighting: Public Service Co. of Indiana Planned by: M. B. Wolfe, lighting engineer, Terre Haute, Ind. Supplier: Richmond-Kline Electric Co., Terre Haute, Ind. Room Shown: Main Office Area: 2016 sq. ft. Ceiling Height: 9' 4" rows on 6' centers

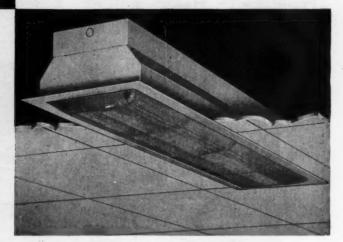
Fixtures: KAYLINE SL-513-2Lt 96" 430Ma recessed with Corning curve lens panels

Watts per Sq. Ft.: 2.3

Intensity: 65 footcandles maintained at desk top level.

because it provided the best lighting for this job





# KAYLINE

the one source lighting line

Good lighting is as important to a freight operation as the vehicles that move the freight, Because KAYLINE fixtures would comply with the high standards required for the job, because KAYLINE craftsmen take extraordinary care and precaution in assembling and testing, because KAY-LINE fixtures would be simple to install and maintain . . . and because KAYLINE means quality . . . KAYLINE was specified for the job.

If you feel that lighting is a very important requirement in living — then KAYLINE is your kind of firm — a firm that values human eyesight, a firm that's built to protect it we can work with you on your lighting problems. We would like to send you our catalog which shows the complete line of fluorescent, incandescent and slimline fixtures and gives information and charts on footcandles of light, light patterns, installation suggestions and other important data.



#### AYLINE COMPANY

22nd Street . Cleveland 15, Ohio

Established 1895

EVEN OUR CATALOG IS DIFFERENT

# When it comes to advanced kitchen



Survey after survey reveals these two facts about kitchen-conscious women: (1) No kitchen is ever too "advanced" for them. (2) Like a man studying a can opener, they are enthralled by surprise features. When you put a new automatic Gas range in the kitchen, you start with a number of such surprise features: with a clock control, a timer and automatic lighting throughout. But you can offer your prospects even more...such Gas exclusives

as a built-in griddle...a separate high broiler... a staggered range top. Of course there's no question about how well the range works; every woman knows the advantages of Gas cooking. When you add an automatic Gas refrigerator, you can get another wonderful surprise feature to help you sell more houses — an automatic icemaker that feeds non-stick cubes into a basket. No two ways about it, Gas appliances are really advanced.

You

.. nothing makes as much sense as Gas

This New Freedom Gas Kitchen\* features an RCA Estate automatic Gas range made to "CP" standards by the RCA Estate Appliance Corporation.

Cabinets by Mutschler Bros.

←The Sorvel automatic Gas refrigerator shown (with copper-finish top) is completely silent, has no moving parts to wear, offers the longest warranty in the business... a full 10 years.

Coloric automatic Gas clothes dryer and A. O. Smith Permoglos automatic Gas water-heater.

Every advanced home deserves Gas in the laundry. Actually, you should consider an automatic Gas water-heater as part of a laundry. Although a water-heater feeds the whole house, it's the automatic washer that really makes a Gas heater essential. For Gas delivers tankful after tankful of hot water 3 times faster than any other all automatic fuel. Yet it costs less to-buy a Gas heater, less to install it and less to use it. Much the same advantages—economy and speed of operation—apply to the Gas clothes dryer. In fact, professional launderettes prefer Gas 30-1—a striking tribute to its superiority. What could make more sense than Gas in any home?

AMERICAN GAS ASSOCIATION

Your local Gas company will be happy to work with you on any problem.

Only Gas



gives you so many modern features

GAS—the modern fuel for <u>automatic</u> cooking...refrigeration...water-heating...house-heating...air-conditioning...clothes-drying...incineration.

#### A PRODUCTS

(Continued from page 294)

#### FIRE-RESISTIVE CEILING

• Fire-resistive, acoustically treated and thermally insulated ceiling construction is available in the Fryate System. This mechanical suspension system uses insulation batts that are the equivalent of 4 in. of mineral wool laid on top of incombustible acoustical tile so that ductwork, pipes and conduit are accessible. According to the manufacturer, this is the first acoustical ceiling which has been given a 2-hr fire rating. Fryate, Inc., 832 West Eastman St., Chicago, Ill.

#### AWNING WINDOW

• An Auto-Lok aluminum awning window with torque bar operation is a supplement to the standard Auto-Lok windows. The torque bar, radially splined and completely concealed in the sill, brings in the bottom night vent without exerting any pressure on the hinge points of the other vents, which are locked automatically. All anchor housings have been eliminated on the jambs. Ludman Corp., North Miami, Fla.

#### WALL PANELS



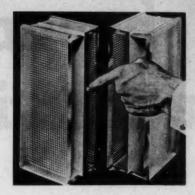
• Marlite plank and block woodpanels, installed with special metal clips, are available in 10 colors and four wood patterns. The baked finish resists grease, smudges and splashes and can be cleaned with a damp cloth. This kitchen combines light aqua and pink blocks with dark aqua planks. Marlite-Marsh Wall Products, Inc., Dover, Ohio.

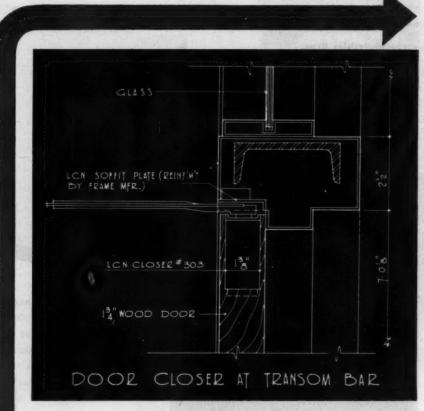
#### **GYPSUM PARTITIONS**

• A gypsum partition system, demountable and reusable, is available in any height up to 12 ft. The partitions come complete with panels and all the accessories needed, including metal door and window framing. Each 24-in. panel is 1 in. thick, and the completed partition is 35% in. thick with a 15%-in. hollow space for wiring, plumbing and other services. The panels are locked in place by metal studs, which attach to adjustable floor shoes and into metal partition caps attached to the ceiling. U. S. Gypsum Co., Dept. 136, 300 W. Adams St., Chicago.

#### GLASS BLOCKS

• "Suntrol" glass blocks, designed to alleviate high brightness problems resulting from sun and snow, contain a pale green fibrous glass diffusing screen that reduces surface brightness or glare by 35 per cent and instantaneous heat gain by 25 per cent. The 12-in. blocks are available in patterns that throw light upward toward the ceiling, that diffuse light in all directions, and that distribute light over wide floor areas. Pittsburgh Corning Corp., Pittsburgh 22, Pa.





#### **CONSTRUCTION DETAILS**

for LCN Closer Concealed-in-Door, Shown on Opposite Page The LCN Series 302-303 Closer's Main Points:

- 1. An ideal closer for many interior wood doors
- 2. Mechanism concealed within door; flat arm not prominent, and provides high closing power
- 3. Door is hung on regular butts
- 4. Closer is simple to install and to adjust
- 5. Used with wood doors; wood or metal frames
- Practically concealed control at little more than exposed closer cost

Complete Catalog on Request—No Obligation or See Sweet's 1954, Sec. 17e/L

LCN CLOSERS, INC., PRINCETON, ILLINOIS



# MODERN DOOR CONTROL BY LCN. CLOSERS CONCEALED IN DOOR

KEOKUK SENIOR HIGH SCHOOL AND COMMUNITY COLLEGE, KEOKUK, IOWA



# ONAN Standby Electric Power 24 = 3 for any building you design . . .





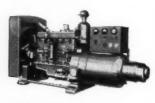
Model 305CK- 3,500 watts A.C.



Model 10CW -10,000 watts A.C.



Model 25HN -25,000 watts A.C.



odel 50KA - 50,000 watts A.C.

Even the most modern buildings become unsafe when electric power is interrupted. Lives and property are endangered.

With an Onan Standby System, any interruption of highline electricity automatically starts the emergency electric plant and within seconds all essential equipment is operating normally. In many instances just one power interruption will justify the cost of the standby power installation.

Hospitals, homes, schools, churches, hotels, radio stations, stores, offices . . . all modern buildings need standby protection. Onan builds units to meet any requirement....1,000 to 50,000 watts, gasoline engine powered.

Write for Architects' Kit SP-1021 Contains specifications for all standby

models and information on installation.

D. W. ONAN & SONS INC. 7386 Univ. Ave. S.E., Minneapolis 14, Minnesota



First...in Standby Electric Power

#### PRODUCTS

(Continued from page 276)

#### PAVING COMPOUND

· A paving compound of lime and fly ash composition will be used in a 3000-ft runway at Wings Field in Ambler, Pa.

Poz-O-Pac is distributed through churned-up earth to a depth of about 10 in, and then compacted. The result is a "rigid, freeze-and-thaw resistant, freedraining material . . . a natural cement." G. & W. H. Corson, Inc., Plymouth Meeting, Pa.

#### WASHSTANDS

· Circular washslands and foot-operated laratories are offered by Kohler.



The circular washbasin accommodates eight persons, with separate faucet and spraying facilities for each, and has an 8-in.-deep basin.



The lavatory faucets are activated by depressing a small metal plate on the floor. A pushbutton on the left operates a soap dispenser. Kohler Co., Kohler,

#### SLIDING CLOSET DOORS

• Esco sliding closet doors are made of Novoply or birch-veneered Novoply core, a flat paneling material, with a steel channel along the edge. The manufacturer claims that these doors, which are available in all sizes, will not warp. Engineering Sales Co., 550 McNeilly Rd., Pittsburgh, Pa.

(Continued on page 284)

# with a new incombustible mineral core—

# WELDROK®

Strong, light-weight, solid-core Weldrok construction now gives Weldwood Fire Doors even greater degree of fire protection. Backed by the most outstanding guarantee in the industry. Yet they cost no more!

Weldwood Fire Doors have an unmatched record for absolute safety and dependability under every type of service condition. That is why for years they have been standing guard in leading hospitals, schools, business institutions and better built homes.

outstanding fire protection. Weldrok, the important new safety feature of Weldwood Fire Doors, was developed and is being manufactured exclusively by the United States Plywood Corporation. Weldrok is an inert, incombustible mineral core material offering a higher degree of fire protection, plus higher insulation value. Weldrok helps keep the door straight and true for the life of the installation. Weldwood Fire Doors with new Weldrok core are listed by the Underwriters' Laboratories for Class "B" and "C" openings.

**OUTSTANDING BEAUTY.** Weldwood Fire Doors have long been known for their beauty as well as safety. They are available in a wide variety of handsome hardwood faces . . . birch, walnut, Korina®, rift oak and in almost any exotic wood veneer you may want to specify. Furnished in standard sizes with special sizes and cutouts to order. If you are planning to install wood paneled interior walls, doors can be ordered with faces made from matching veneer flitch.

**OUTSTANDING GUARANTEE.** Weldwood Fire Doors have the most sweeping guarantee in the industry. Read it and see for yourself! Every word of it is backed by the United States Plywood Corporation, world's largest plywood organization.

For further information consult with your lumber dealer or contact the architects' and builders' service section at any of the 73 United States Plywood or U.S.-Mengel Plywoods distributing units in principal cities, or mail coupon.



### Weldwood

FIRE DOORS AND STAY-STRATE® DOORS

**United States Plywood Corporation** 

World's Largest Plywood Organization
U.S.-Mengel Plywoods, Inc., Louisville, Kentucky
In Canada, Weldwood Plywood Ltd., Montreal and Toronto

# WELDWOOD Fire DOOR GUARANTEE

United States Plywood Corporation unconditionally guarantees the Weldwood Fire Door, if properly installed, against warping, twisting, or manufacturing defects for the LIFE OF THE INSTALLATION. If any Weldwood Fire Door should fail to meet these standards, we will replace said door without charge, including all labor costs of hanging and refinishing.







UNDERWRITERS' LABEL ON EVERY DOOR. Weldwood Fire Doors are listed with the Underwriters' Laboratories, Inc., for Class "B" and "C" openings. The door has been thoroughly tested both for fire resistance and structural integrity.



weldwood fire door features • Bears Underwriters' label • Doors are edge-banded with solid hardwood treated with class "A" fireproofing agent • Incombustible Weldrok core • Crossbanding is 1/16" hardwood veneer permanently bonded to core with waterproof resin glue • Face Veneer: Birch is standard; any wood face available on order.

\*U. S. PAT. NO. 2593050

Please

United States Plywood Corporation										
55 West 44th	Street, New York City, N. Y.									
send me complete	information on Weldwood Fire and Sta	y-								
Doors.	AR-10	-54								

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City	 S.ate.	

# STROMBERG

HOSPITAL TIME AND SIGNAL EQUIPMENT



Stromberg Time Systems -Clocks





Stromberg-Cannon Doctors' In and Out Register

- Silent paging
- Annunciators
- **Isolation Transformer Ground Detectors**
- Radio Systems
- Corridor and **Night Lights**
- Fire Alarm Equipment
- Time Recorders
- Time Stamps

For complete information about the finest hospital signal and time systems,

write

# STROMBERG TIME CORPORATION

Subsidiary of General Time Corporation THOMASTON CONNECTICUT

#### PRODUCTS

(Continued from page 280)

#### **FABRICS**

• Drapery and upholstery fabrics designed for the fall market include new fabrics. new weaves, brilliant coloring and designs of modern, abstract, impressionistic, Oriental and traditional patterns. Desley Fabrics, 40 East 34th St., New York, N. Y.

THERMOSTATIC CONTROLS

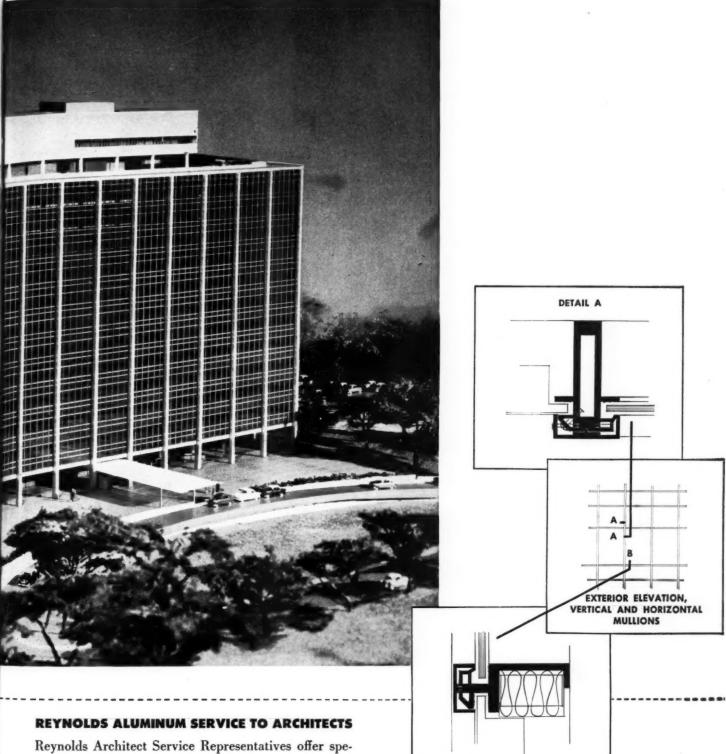


· A heating control system has been developed for use in schools to give teachers control over temperatures in their own classrooms and, at the same time, to permit the principal to maintain pushbutton supervision over conditions in all classrooms. Thermostats in each classroom are wired to a master control monitoring panel installed in the principal's office. By pushing a button he can read the temperature in any classroom at any time. The system also includes a firedetecting element and relay which sounds an alarm and indicates on the master control panel the exact location of a blaze anywhere in the building. Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.



• An electronic limit controller, the 700 Series Limitrol automatically shuts off fuel supply at any specified temperature manually set on the indicating scale and, if so desired, sounds an alarm. Barber-Colman Co., Rockford, Ill.

(Continued on page 288)



Reynolds Architect Service Representatives offer specialized assistance on aluminum design problems, on applications of standard aluminum mill products, and on the use of commercially fabricated aluminum building products. They can help to coordinate varied aluminum requirements for procurement efficiency and economy. Please address inquiries to... Architect Service, Reynolds Metals Company, Louisville 1, Kentucky.

SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network.

DETAIL B



# ALUMINUM

(Continued from page 284)

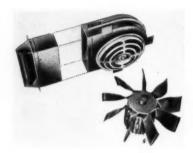
#### HEATERS AND VENTILATORS

• A radiant electric wall heater has a thermostat containing a pilot light which automatically cuts off all current to the heater whenever the room temperature reaches the thermostat set. Designed for surface mounting, the heater is available in two models, rated at 1250 and 750 watts, respectively. ThermoRay Corp., 141 East 44th St., New York 17, N. Y.

• The Temptron home air-conditioning unit for a five- to six-room house uses a 1-hp compressor to deliver 2 tons of cooling and, according to the manufacturer, consumes 30 to 50 per cent less electricity, operates at 40 per cent less cost and is priced 10 to 20 per cent less than comparable air-cooled units. Water consumption is claimed to be less than 10 gal per hr. The unit, 21 in. high and weighing less than 300 lb, can be installed in an attic, crawl space, basement or storage room. Ultrasonic Corp., 640 Memorial Drive, Cambridge, Mass.



• A new model gas-fired winter air conditioner, the Budgeteer, Type SV-36-G, is recommended for small homes with limited floor space. With a capacity of 70,000 Btu per hour input, it is fully automatic and equipped with a low-speed blower to send a continuous, gentle flow of warm air at any desired temperature into each room. Richmond Radiator Co., P.O. Box 111, Metuchen, N. J.



• Fasco, the 10-in. Model 1021 Ceil-N-Wall rentilating fan, with a 9-petal turbo-radial impeller, will deliver 530 cfm at the highest of three speeds through 10 ft of duct. The fan reportedly moves air with the quietness of a blower and the capacity of a propeller and can be used either in ceiling, cabinet or inside wall installations. Fasco Industries, Inc., Rochester, N. Y.



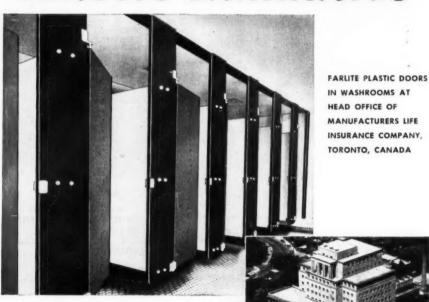
• An optional fan assembly can now be added to any of the three models of Saf-Aire gas wall heaters. The fan assembly, consisting of a 7-in. five-bladed fan mounted on rubber, an automatic control with adjustable range, and the necessary wiring, including an 8-ft extension cord, can be snapped into the wall heater easily. Stewart-Warner Corp., U. S. Machine Division, Lebanon, Ind.

(Continued on page 294)



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## PLASTIC LAMINATES



Whatever the job, you (and your clients) will be better satisfied if you specify FARLITE when you plan new construction or remodel present facilities. It's the very best in plastic laminates for partitions and paneling... for counter, table and bar tops... for a host of other uses. Its glass-smooth surface is easy to clean, permanently beautiful... resists heat and burning cigarettes... is not affected by alcohol, grease, mild cleaning solutions... will not chip or fade.

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# DuPont saves 57,000 a year

#### with just partial modernization of coal burning equipment

The boiler plant at DuPont's Barksdale Works was operating inefficiently, due to an old forced draft system and unwieldy combustion control. DuPont engineers decided to modernize these operations, estimating that the cost would be amortized quickly through the increase in efficiency. An up-to-date draft fan and automatic combustion control system were installed. Today savings of \$7,000 annually have been realized—a gross return on the investment of 140%! Not only has the new equipment paid for itself in one year, but it has produced the additional advantages of reduced ash-pit

losses, lowered maintenance costs, increased steaming capacity.



Control Board at Barksdale Works. Steam generating equipment consists of four 15,000 lb./hr. 150 psi stoker-fired boilers.

#### **Thousands Saved**

More and more plants are saving thousands of dollars yearly burning coal the modern way. The reasons are obvious. In most industrial areas, coal is the cheapest fuel available. Not only do you actually get more BTUs per dollar from coal, but the efficiency of modern combustion equipment extracts even more benefit from coal's inherent energy. What's more, today's automatic coal and ash handling methods mean minimum labor costs. Coal is clean, too. It travels in dust-tight chutes; ashes are piped out through pneumatic tubes; there is no smoke problem. And between our vast coal reserves and highly mechanized coal production, you can count on coal remaining plentiful and its price remaining stable.

#### **Investigate Fuel Costs**

If you're planning to modernize your old plant or build a new one—or if you are just interested in cutting fuel costs—find out how coal burned the modern way compares to other fuels for *your* plant. Talk to a consulting engineer or your nearest coal distributor. Their advice may save you thousands of dollars every year.



#### BITUMINOUS COAL INSTITUTE

A department of National Coal Association Southern Building, Washington 5, D. C.

For further information or additional case histories showing how other plants have saved money burning coal, write to the address above.

(Continued from page 288)

#### AUTOMATIC WASHER

· An automatic washer, Model 451, features a water temperature selection control, allowing the homemaker to rinse clothes in hot, warm or cold water. Another feature is the "short wash cycle" which washes, rinses and spin-dries a full load of clothes in 18 min, using only 5 gal of hot water. The new automatic is 36 in. high, 25 in. wide and  $26\frac{1}{4}$ in. deep. Thor Corp., Chicago, Ill.

#### ROOF SYSTEM

· A structural roof system consists of porcelain, aluminum or galvanized steel panels securely anchored to a precisionaligned grid of sub-purlins. The subpurlins are welded to building purlins, and the panels are then dropped into place and secured by slide-on clips. Despite full freedom for expansion and contraction of panels, Ingersol Roof Deck is said to offer a new high in rigidity and strength at 8-ft spans. Reflectal Corp., 310 So. Michigan Ave., Chicago 4,



#### INSTITUTIONAL DOOR



• An institutional door, manufactured with a core of cylindrical fiber columns, claims heavy duty strength through the use of three-ply balanced face panels, hot-plate-pressed with core and frame into one integral unit. The top and bottom rails are 10 in. wide with an extra center cross rail and two 40-in. lock blocks which furnish space for installing panic bars, large locksets and heavy door pulls. General Plywood Corp., Louisville, Ky.

#### AIR DIFFUSER



· Circular air diffusers have built-in segmentized air controllers which produce any angle of air discharge from above horizontal to vertical without disturbing the relative position of the aluminum spinnings. Adjustments can be made after installation. Non-adjustable units are also available. Air Devices Inc., 185 Madison Ave., New York 16, N. Y.

(Continued on page 298)



10 Years of Service

Once a Jenn-Air Exhauster is set in a wall or on a roof, you can forget maintenance, because the motor is lubricated for 10 years of normal service. Since the bearing is the heart of any motor, you know this vital part is adequately protected in a Jenn-Air Exhauster. This is another feature by Jenn-Air, which has been FIRST with spun aluminum, rust-proof construction, no painting necessary; FIRST with simplicity of installation and ease of cleaning. Exclusive dual low-contour design means beauty that blends with today's modern architecture. It means fitting ventilation needs to the building which adds up to savings in labor and maintenance. Consult Jenn-Air Ventilating Specialists on ventilating problems.





#### JENN-AIR PRODUCTS COMPANY, INC.

Architects & Builders Building Indianapolis 4, Indiana

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This New Freedom Gas Kitchen\* features an RCA Estate, automatic Gas range made to "CP" standards by the RCA Estate **Appliance Corporation.** 

Cabinets by Mutschler Bros.

**◄**—The **Servel** automatic Gas refrigerator shown (with copper-finish top) is completely silent, has no moving parts to wear, offers the longest warranty in the business . . . a full 10 years.



Every advanced home deserves Gas in the laundry. Actually, you should consider an automatic Gas water-heater as part of a laundry. Although a water-heater feeds the whole house, it's the automatic washer that really makes a Gas heater essential. For Gas delivers tankful after tankful of hot water 3 times faster than any other all automatic fuel. Yet it costs less to buy a Gas heater, less to install it and less to use it. Much the same advantages-economy and speed of operation-apply to the Gas clothes dryer. In fact, professional launderettes prefer Gas 30-1—a striking tribute to its superiority. What could make more sense than Gas in any home?

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GAS-the modern fuel for automatic cooking . . . refrigeration . . . water-heating . . . house-heating . . . air-conditioning . . . clothes-drying . . . incineration.

#### A PRODUCTS

(Continued from page 294)

#### FIRE-RESISTIVE CEILING

• Fire-resistive, acoustically treated and thermally insulated ceiling construction is available in the Fryate System. This mechanical suspension system uses insulation batts that are the equivalent of 4 in. of mineral wool laid on top of incombustible acoustical tile so that ductwork, pipes and conduit are accessible. According to the manufacturer, this is the first acoustical ceiling which has been given a 2-hr fire rating. Fryate, Inc., 832 West Eastman St., Chicago, Ill.

#### AWNING WINDOW

• An Auto-Lok aluminum awning window with torque bar operation is a supplement to the standard Auto-Lok windows. The torque bar, radially splined and completely concealed in the sill, brings in the bottom night vent without exerting any pressure on the hinge points of the other vents, which are locked automatically. All anchor housings have been eliminated on the jambs. Ludman Corp., North Miami, Fla.

#### WALL PANELS



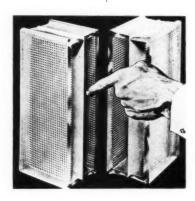
• Marlile plank and block woodpanels, installed with special metal clips, are available in 10 colors and four wood patterns. The baked finish resists grease, smudges and splashes and can be cleaned with a damp cloth. This kitchen combines light aqua and pink blocks with dark aqua planks. Marlile-Marsh Wall Products, Inc., Dover, Ohio.

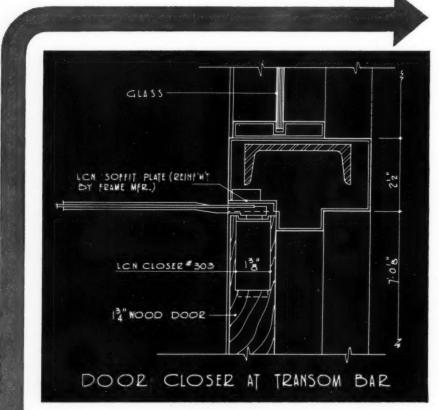
#### GYPSUM PARTITIONS

• A gypsum partition system, demountable and reusable, is available in any height up to 12 ft. The partitions come complete with panels and all the accessories needed, including metal door and window framing. Each 24-in. panel is 1 in. thick, and the completed partition is 35% in. thick with a 15%-in. hollow space for wiring, plumbing and other services. The panels are locked in place by metal studs, which attach to adjustable floor shoes and into metal partition caps attached to the ceiling. U. S. Gypsum Co., Dept. 136, 300 W. Adams Sl., Chicago.

#### GLASS BLOCKS

• "Suntrol" glass blocks, designed to alleviate high brightness problems resulting from sun and snow, contain a pale green fibrous glass diffusing screen that reduces surface brightness or glare by 35 per cent and instantaneous heat gain by 25 per cent. The 12-in. blocks are available in patterns that throw light upward toward the ceiling, that diffuse light in all directions, and that distribute light over wide floor areas. Pittsburgh Corning Corp., Pittsburgh 22, Pa.





#### **CONSTRUCTION DETAILS**

for LCN Closer Concealed-in-Door, Shown on Opposite Page The LCN Series 302-303 Closer's Main Points:

- 1. An ideal closer for many interior wood doors
- 2. Mechanism concealed within door; flat arm not prominent, and provides high closing power
- 3. Door is hung on regular butts
- 4. Closer is simple to install and to adjust
- 5. Used with wood doors; wood or metal frames
- 6. Practically concealed control at little more than exposed closer cost

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FABRICS • CARPETS • WALLPAPERS



#### A LITERATURE

(Continued from page 232)

#### PIPING

- A 5-page illustrated bulletin describes special uses of Robinson vitrified clay pipe and Screw-Seal pipe in industrial duct installations for waste disposal and heating, ventilating and air conditioning. Vitrified Products Div., The Robinson Clay Product Co., 65 W. State St., Akron 9, Ohio.\*
- Ladish Controlled Quality Fittings includes 56 pages of technical data featuring new allowable stress and P/S tables and maximum allowable working pressure charts as well as many other tables of applicable piping codes and standards to assist in solving piping problems. 304 pp, illus. Ladish Co., Cudahy, Wis.
- Piping for Permanence contains technical data based on an analysis of thousands of piping systems in which wrought iron is specified to help solve corrosion problems. In addition to a roundup of wrought-iron pipe installations and a review of piping properties, there is an 11-page chapter dealing exclusively with water analysis and treatment. 32 pp, illus. A. M. Byers Co., Engineering Service Dept., Pittsburgh, Pa.\*

#### LUMBER DESIGN SPECIFICATIONS

• National Design Specifications for Stress-grade Lumber and Its Fastenings, containing data gathered from laboratory tests and practical experience with structures in service, has sections on stress-grade lumber, allowable unit stresses, design loads, design formulas and provisions, timber connection joints, bolted joints, lag screw joints, nail and other joints and glued laminated structural members. 67 pp. National Lumber Manufacturers Association, Washington, D. C.

#### MOISTURE IN HOMES

• A Revised Edition of Excessive Moisture in Home covers the sources of excessive moisture and its consequent damage, such as paint failure, mold and mildew, swollen doors and windows and stains on walls and ceilings. Suggestions are offered for preventive and corrective measures in new and existing structures. 48 pp, illus, Extension Series No. 82. Purdue University (University Editor), Lafayette, Ind.

(Continued on page 306)

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ZONE

# Write for these free data books from H. H. Robertson's technical library



#### 1. Design and Cost Factors

This book compares Q-Floor with other types. Based upon a typical multi-story

building, the study is replete with charts and cost analyses of all structural components.



#### 4. Cantilevered Roofs and Canopies

This is information on the use of long-span Q-Deck on modern buildings that call for covered walkways or overhanging roofs for weather protection. Loading conditions and structural details shown.



#### 2. How to Fireproof Q-Floor and Structural Steel

This is a description of fireproofing methods when Q-Floor is used with structural steel

framing. It contains detailed drawings, typical code requirements and fire resistive ratings.



#### 5. Concrete Fill on Q-Floor

This booklet gives recommended practices for concrete fill over Q-Floor. You'll find specifications for formulation, placement and curing, plus treatises on the nature and reactions of concrete.



#### 3. An Analysis of Industrial Roof Construction

All the better-known roof types (flat, monitor, bow-string, double-pitch, high-low

bay, saw tooth) are compared on the basis of weight of structural steel, volume, roofing, sash area, flashing, ventilation and daylighting.



#### Acoustical Data on Q-Deck

Though the fluted undersurface of Q-Deck provides some acoustical value, demand for more has led Robertson engineers to devise a new lowcost treatment. Test data and details are included.

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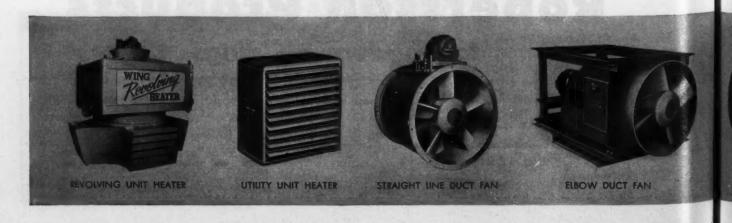
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any other Fan made for heating, ventilation, drying, etc., as competitive trials have shown". Today, Wing products for ventilation, heating and combustion are known for their efficiency and dependability in all parts of the world. The company Mr. Wing founded has kept his ideals of originality and excellence constantly before them.



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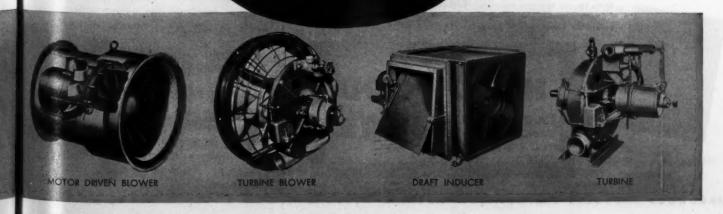
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LITERATURE

(Continued from page 302)

#### HEATERS

- A brochure of engineering case studies describes nine ways in which warm air space heaters were used to heat a variety of diversified manufacturing plants. Each bulletin in the brochure describes an individual plants' requirements and lists the benefits derived by installing oil- or gas-fired warm air space heaters. Dravo Corp., 1203 Dravo Bldg., Pittsburgh 22, Pa.\*
- Acme Flow Temp Heat Pump, explains how water is used as a source of clean, flameless heat in winter and how heat is removed from the interior of a building in warm weather. Typical installations are shown, both with remote room conditioners and with radiant piping. 4 pp, illus. Acme Industries, Inc., Jackson, Mich.\*
- The latest design, general engineering data, capacity tables and piping diagrams of American Blower Venturafin Unit Heaters are covered in Bulletin 7517. American Blower Corp., Detroit 32, Mich.\*
- Powermaster packaged automatic boilers for light oil, heavy oil, gas or combination gas/oil firing are analyzed in Bulletin 1219. 16 pp, illus. Orr & Semblower, Inc., Reading, Pa.

#### AIR CONDITIONING CONTROL

• Residential Air Conditioning Control is a comprehensive study which considers the basic constructions encountered in various air conditioning systems, breaks the systems down into their components, discusses the control requirements imposed by each of the components, outlines methods of providing control functions for each part of the system, and by means of wiring diagrams combines the various parts of the system into complete control hookups as used by manufacturers in their current production. 84 pp, illus. Penn Controls, Inc., Goshen, Ind.

#### CHEMICAL PAINT CHECK LIST

• ACP Check List presents tables listing metal-protective and paint-bonding chemicals for steel, zinc, aluminum and other metals with industrial applications. 8 pp. American Chemical Paint Co., Ambler, Pa.

(Continued on page 312)



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MASONRY CEMENT America's Most

#### DEPENDABLE

**Mortar Cement** 

• Since its inception 24 years ago Medusa Non-Staining StoneseT White Masonry Cement has been used in hundreds of buildings of stone, marble, glass block and face brick that today stand as living testimony of StoneseT's dependability. These photographs prove that StoneseT not only produces strong, beautiful, white or tinted mortar joints-but makes joints that remain beautiful and strong for years to come. In short this cement makes a more beautiful-more lasting wall that can not possibly be duplicated with ordinary masonry cements. Specify StoneseT and you get the ultimate in handsome dependable masonry walls.

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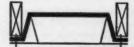
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Here's B-I-G insulation value in a clean, compact "package"-ALFOL Type II. Just 2 aluminum foil sheets and a heavy kraft-and-duplex backing. Yet on down-flow heat, for example, its thermal value surpasses that of even full-thick bulk materials! (Authority: U. S. Bureau of Standards.)

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In the three operating rooms of the newlyrenovated St. John's Hospital, real clay tile was chosen for both wall and floor surfaces. "It is so easy to clean and keep clean," reports the Operating Room Supervisor.

"We are particularly proud of the floors," she adds. American-Olean is proud, too, because these floors are Conduct-O-Tile. In each of the three new operating rooms, Conduct-O-Tile now eliminates the main cause of static-sparked explosions. No waxing or special treatment is needed to keep it permanently conductive.

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TILE SPECIFICATIONS: Operating Room, St. John's Hospital, Salina, Kansas. Color Plate No. 346. Walls: 14 Spring Green. Floor: Caneweave; Jet Conduct-O-Tile and Green Granite.

CONDUCT-O-TILE eliminates main causes of static-sparked explosions. Newly-developed impervious ceramic tile dissipates dangerous charges of static electricity. Permanently conductive; no free carbon to bleed out or track to other areas; stain resistant and fireproof. Send for complete technical data.

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- ☐ Information and literature concerning CONDUCT-O-TILE
- ☐ Booklet 205, Catalog of Tile Products

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MODERATELY CONDUCTIVE operating room floor provides added safety at St. Elizabeth's Hospital, Dayton, Ohio. Architects: Schmidt-Garden & Erickson, Chicago. Terrazzo Contractor: Serena Art Terrazzo & Mosaic Co., Inc., Dayton. General Contractor: James McHugh Construction Co., Chicago.

# Special treatment for hospital floors ... with Terrazzo



**DURABLE BEAUTY** of corridor at St. Elizabeth's will withstand heavy wear, frequent scrubbing. Smooth, even surface of terrazzo cleans easily and economically.

Hospital floors made with terrazzo remain bright and attractive in spite of heavy foot traffic, rolling equipment and continuous scrubbings. In the operating room shown above—where absolute cleanliness is a must—terrazzo's smooth surface is easy to clean... and keep clean. In addition, for greater safety in such rooms where anesthetics or oxygen therapy are used, terrazzo floors can be made moderately conductive by an acetylene carbon admixture. These special floors guard against possible explosion caused by static electricity.

Only terrazzo offers such a wide latitude of design possibilities...as-

sures durable beauty at low annual cost. And no matter what design you choose, you can obtain almost unlimited colors and tones when you use Atlas White Cement.

Whenever a job calls for lasting good looks, long-term economy and ease of cleaning, consider terrazzo made with Atlas White Cement. Ideal for wainscoating and stairways, too. For more information, see SWEET'S Catalog, Section 12g/Un and 3d/Un, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.



FOR BEAUTY AND UTILITY

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FOR TERRAZZO, PAINT, SLABS, STUCCO

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"A salute to those who made it possible" \*





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You will never need to disrupt your business for electrical alterations. Never need to pay for expensive labor to tear up your floors. Not if you plan your building with Fenestra-Nepco Electrifloor\* in mind!

You can save your building from electrical obsolescence. New outlets can be installed any time... in any or every square foot of floor space... in a matter of minutes!

You can cut your building costs... in one job, 1,000 tons

You can cut your building costs . . . in one job, 1,000 tons of structural steel were saved because of Electrifloor's combination of great strength with light weight. Foundation costs were also cut.

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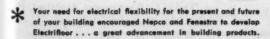
Fenestra-Nepco Electrifloor was developed jointly by Fenestra\* (Detroit Steel Products Company) and Nepco

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Sylvania Electric Products Inc., 1740 Broadway, New York 19, N. Y.

In Canada: Sylvania Electric (Canada) Ltd., University Tower Building, St. Catherine Street, Montreal, P. Q.

LIGHTING · RADIO · ELECTRONICS · TELEVISION

LITERATURE

(Continued from page 306)

#### RLM STANDARDS

• The 1954 RLM Standard Specifications for Industrial Lighting Units includes, in addition to the latest approved revised specifications, new lighting data on upward component lighting units. RLM Standards Institute, Suite 818, 326 W. Madison St., Chicago 6, Ill.

#### JOINT SEALER

· IGAS Joint Sealer discusses a nonmeltable mastic material which can seal joints subject to severe movement and pressure between a variety of rigid structural materials such as concrete to concrete, concrete to steel and concrete to glass. 4 pp, illus. Sika Chemical Corp., 35 Gregory Ave., Passaic, N. J.\*

#### METAL CASING BEADS

· Economical uses of metal casing beads for doors and windows, base screed for plastered walls and concealed picture mold for wall-hung objects are the topics covered in Technical Bulletin No. 10, Metal Lath Mfr.'s Assoc., Engineers Bldg., Cleveland 14, Ohio.\*

#### SHUTTERS

· Movable Window Shutters and Louver Doors illustrates a variety of uses and combinations of shutters and louver panels, showing installations in different rooms. Construction, finishing and hardware of the shutters and doors are covered. 6 pp, illus. Louvercraft, 425 Austin Place, New York 55, N. Y.

#### SKYLIGHTS

 Aluminum and fiber glass skylight panels which are preassembled for easy installation, lightweight and weathertight are presented in Marcolite Skylight. 4 pp. illus. Marco also publishes an 18-page illustrated price list of recessed lighting fixtures. The Marco Co., 45 Greenwood Ave., East Orange, N. J.

#### LITERATURE REQUESTED

The following individuals and firms request manufacturer's literature:

H. A. Cepeda, Architect, Villa Ballester, Buenos Aires, Argentina.

Arthur D'Oliveira, Student, 14 Pemberton St., Waterbury 6, Conn.

David G. Naumerson, Architect, P.O. Box 964, Scottsdale, Arizona.

William B. Tooly, Architect, 217 Park Ave., Mooresville, N. C.



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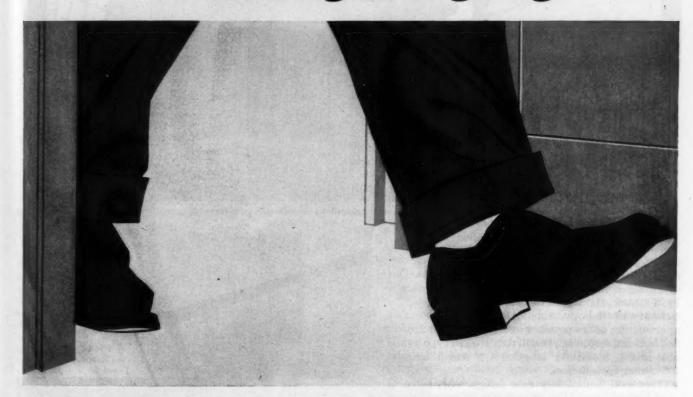
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"A salute to those who made it possible"

# How to save money coming and going



Count the doors in your building. Like to save up to \$100 apiece on each door you put in your next building? Compare the installed cost of Fenestra\* Hollow Metal Door-Frame-Hardware Units with the cost of other hollow metal doors!

Here are three sound reasons why Fenestra Door Units can bring you such important savings:

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MAYFLOWER. Completely new design with graceful oval bathing area. The 48x44" size solves problems of limited or unusual space. Integral seats provide comfort for foot or sponge bathing. Low front for easy access. Available for building-in or corner installation.

MINOCQUA. A first quality recess bath of 5' length for lower cost homes where space or budget is re-

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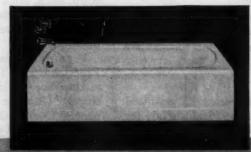
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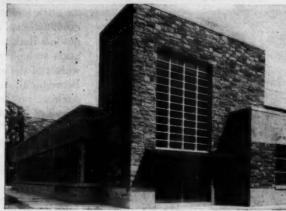
"A salute to those who made it possible"

## Why so many of America's finest schools have

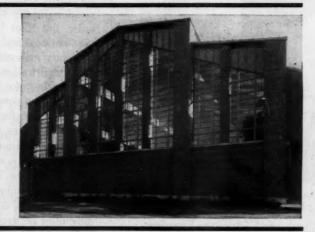
Fenestra Intermediate Steel Awning Windows in Clemson College Chemistry Building, Clemson, South Carolina. Architects: Hopkins & Baker of Anderson, S. C. Contractor: Industrial Builders, Inc., Anderson, S. C.



Fenestra Intermediate Steel Awning and Projected Windows in Lower Merrion Schools, Ardmore, Pa. Note how the high bank of windows in the entrance wall lights the stairway. Architects: Savery, Scheetz & Gilmour, Philadelphia. Contractor: Frank V. Warren, Philadelphia.



Fenestra Intermediate Steel
Projected Windows in the
Athletic Field House at
Evanston High School,
Evanston, Ill. Architects:
Perkins & Will, Chicago.
Contractor: Peter Hamlin
Construction Co., Chicago.



# Fenestra Windows

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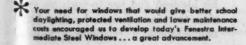
They provide more and better daylight. Fenestra Windows are engineered and precision built to be rigid and rugged without excess bulk. You get more glass area and clear-vision view per window opening.

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INTERMEDIATE STEEL WINDOWS for useful apprenticeship, but the profession must recognize the eventual private practice of all the graduates who apprentice with them." He adds on the other side: "A more tolerant attitude by the student with less emphasis on starting salary is also necessary for a better relationship." Henry Hill, of San Francisco, is at least one practitioner who appears to feel that schools do not achieve and should not attempt the aim of preparing men for immediate

usefulness in offices. He wrote: "As everyone knows, generally speaking, the student today is worthless to an architectural office and it is many years before he is of real value. As I have said, I do not believe the University is a job-training school. But would it be possible in some way (this is just thinking out loud) — to go much further in time in architectural training, and that after the formal university education there comes an internship period

and thus bridge the gap between the university and the office."

Ray Faulkner, Stanford, asked for a "controlled apprentice program under direction of state registration boards," and Harold Hauf stated that: "A greater formilization of the three-year experience requirement and some kind of 'code of internship' among architectural offices, regarding the type of work they will give new men, would do much to strenghten the relationship between the student and the profession, and to ease the transition from education to practice." Arthur Gallion, Southern California, made a very specific analysis of the problem and had a specific answer: "The wide gap now apparently present between education and practice is created by the registration requirements, specifically, the examination for registration. This does not minimize the problem of practical experience and the getting of jobs necessary for practice but the psychological block is present in large part by the current requirement for an 'examination' - particularly an examination of design talent, which does not link itself to an appropriate examination technique. My suggestion is the waiver of the examination by the State Board for all students with a Bachelor of Architecture degree from an accredited school of architecture; the extension of the practical experience requirement to four or five years minimum; and a careful interview thereafter to ascertain the individual's experience, responsibility, and quality of performance during that period." Figuratively, this statement should occupy the cleanup position in the school team's batting order, but Eliot Whitaker's appeal for the "national recognition by the A.I.A. of young men entering the profession before registration" must be mentioned. Batting last for the pros is George Whittier who does not ask for recognition of the professionals but does urge that: "Educators should instill a respect for the practitioner rather than the contempt that is so prevalent."

Esmond Shaw, of Cooper Union, was an unwitting umpire with this conclusion: "There is nothing new about the difficulties between youth and age and it is only this that causes misunderstanding. If youth would learn to temper his idealism and age to curb his cynicism, there is no reason why they should not establish a relationship founded on mutual respect."

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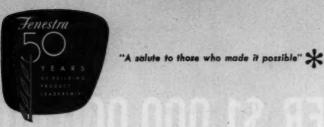
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## They'll clean up on maintenance savings here!

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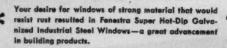
They are Fenestra Super Hot-Dip Galvanized Industrial Steel Windows. They'll save thousands of dollars in paint and labor-every few years, for the life of the building-because they never need painting. And they cost no more than regular steel windows with two inside-outside field coats of paint!

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BEND TEST shows why Fenestra Steel Windows are called Super Hot-Dip Galvanized. When two pieces of galvanized steel are bent, then straightened, some types of galvanizing crack open, leaving the steel vulnerable. The Fenestra piece stays protected.





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Architectural Record "Workbook of the active architect and engineer?"

119 West 40th Street New York 18, N. Y. but fixed form of a Celso Antonio reclining statue and the rectangular transparencies of the Ministry's pan de verre. Both roof gardens use flowing forms, equally related to abstract painting and to a definite spatial reality; they bring to mind the configuration of Brazilian rivers, as seen from the windows of a plane. Both gardens were meant to be complemented by others as ground level.

Another way in which space could be

reclaimed for collective gardens was to provide landscape planting for Botafogo Parkway, which is used all day by those who speed from the bay residential district of Copacabana to their work in the city. Here the beds were designed to give a sensation of movement. Even the concrete benches for the pedestrians contribute to these rhythms. And near the benches there is always something to hold the spectator after the first glance:

the adventitious roots of the Pandanus utilis (common screwpine), or the sand and quarry plants which store water in fleshy leaves, or flowers with hairy petals to catch moisture. Such an ecological group has its place here, since Botafogo is halfway between a beach and rocky hills. And it is one way to preserve vegetation which is being ruthlessly destroyed, either to make way for roads and beach houses along the coast or to be sold in open air markets.

Once in about ten years one is invited to lay out a park. The State Spa of Araxá in Minas Gerais, enclosing sloping hillsides, a radio-active mud lake, and a luxury hotel of uninspiring architecture, was the problem I was handed. Trips into the interior of Minas Gerais had revealed to me the extraordinary brilliance of the Brazilian rock plants, cactuses and lichens which are practically unknown to those who live in towns. These plant complexes start and end as suddenly as though one had put a knife through the soil; and within their own groups, they seem to have created an affinity of shapes and a color harmony which make them marvelous to behold as well as didactically valuable. At Araxá, then, we started to recreate prototypes of regions which could not be reached by the average traveler. Two gardens out of four proposed were actually planted, and fulfilled the main purpose of a garden — to give man pleasure in the shapes and colors of the growing plant. At Araxá, too, I created a color harmony on the hillsides by planting a sequence of shades of mauves and purples.

Except for the Botafogo Parkway, most of these gardens belong to early work; but their principles remain valid. The use of indigenous plants; the integration of plants and beds with the landscape; the contrast and interplay of smaller or larger moving volumes against fixed architectural forms; analogical planting; use of color and texture as a painter would, but never forgetting that color has volume, too—all these characterize any garden I plant, however different its expression may appear to be.

But, of late, I have felt the need to construct far more consciously, far more economically, controlling the exuberance of the tropical form: making one plant family in its various aspects have the importance of several, saying as much as



(Continued on page 324)



The Logan School-Princeton, Illinois

## For School Beauty...and Hard Wear... It's Curtis New Londoner Doors

These schools by Perkins & Will, noted school architects, show how Curtis New Londoner hollow-core flush doors, with their beautifully grained, native wood face panels, fit into contemporary school design. New Londoner doors are as durable as they are beautiful. With their exclusive all-wood locked-

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Logan School—Princeton, Illinois



Logan School—Princeton, Illinois

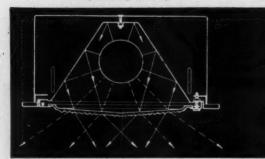
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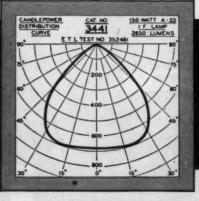
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Fire and Panic Exit Devices one can with the minimum and not the maximum amount of material. Thus, in one instance an avenue of Carib royal palms (Roystonia oleracea) was contrasted with a sequence of flower beds between stone mosaic paving, planted with different species of Philodendron, with leaves of different shapes and sizes, and flowers, some crimson red, some greenish white.

Perhaps the garden where this is the most clearly expressed is the one that was designed for a large public square in the northeastern capital of the state of Paraiba, João, Pessôa. Paraiba is famous for its white sand beaches, its intensely blue sky, and its palm trees growing on the beaches, together with its magnificent trees towering as high as a Royalpalm, — the Pau mulato, Calycophyllum spruceanum (Mulatto Calycophyllum), with slender trunks going from coffee brown to orange to lettuce green at different times of the year;

the Pau rei, Basiloxylon brasiliensis, with its splendid sculptured trunks spreading out as they reach the ground; the Pau darco with its great widespreading branches covered with foliage.

I based this garden on contrasts between the columns of the palms: great colonnades of Royalpalms linked to other colonnades by means of a delicate avenue of Assai Euterpepalms (Euterpe oleracea) and the sand-loving palm, the Macaiba (Acrocomia intumescens), with its swollen trunk. Shade colonnades are created by the mass planting of the Pau darco; and in the sharply rectangular blue lake, lined with glass mosaic, the verticals perpendicular to it were created by the Aninga (Montrichardia liminifera), a spear-shaped plant the reflection of which, in the water, gives it twice its height.

I have tried for the same controlled variety in the garden planned for the Belo Horizonte airport, in which a pool is backed by a screen wall with surfaces entirely faced in one color, as distinct from the geometric patterns in mosaic used in the undulating wall in the Olavo Fontoura garden in São Paulo. Here in Belo Horizonte a plant of the same family, color, and texture will be grown in front of two differently-colored panels of this free-standing wall in order to obtain two entirely differing reactions from one and the same plant.

This conscious control and development of an architectural use of tall plant volumes may be considered a reaction against the arabesques and curves of the Ministry gardens, yet I do not believe that this is so. There are no canons made that are never to be broken; and each terrain, each piece of architecture, calls for a different solution. But the increased desire to achieve a more clarified effect, without pouring all one's plant lore, all one's conceptions of art, into one restricted space is the normal reaction of any artist, whatever his medium.

Burle-Marx has much more to say about his theories and their execution. Fortunately a traveling exhibition of his work, sponsored by the Smithsonian Institution, is currently touring the United States. Among the places in which it can be seen will be the Dallas Museum of Fine Arts, University of Illinois, Smith College Museum of Art, Georgia Institute of Technology, J. B. Speed Art Museum in Louisville.

Frank G. Lopez



Student Physiology Laboratory, Wayne Medical School, Detroit, Mich.

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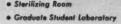


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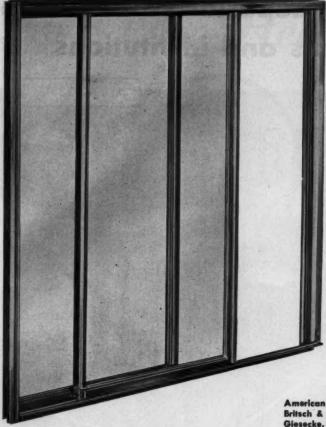






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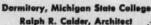
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A limited number of exclusive deale ships with protected territories are avail-able. Peterson Window Corporation in-vites inquiries from reputable dealers.



# Why KENRUBBER is a superior resilient tile flooring—for hospitals and institutions

The unique qualities and practical advantages of KenRubber make it the ideal flooring for hospitals and institutions. Its "coiled-steel" strength and resilience insure outstanding resistance to wear and indentation... exceptional quiet and comfort underfoot that will not diminish even after years of heavy traffic. The richer, clearer marbleized colors can't wear off... provide an important contribution to modern interior design. KenRubber's pre-polished surface resists dirt and stain... continues easy to keep clean to the most exacting hygienic standards. It needs only an occasional no-rub waxing... retains all of its beauty with just a minimum of maintenance effort and expense.

#### SPECIFICATIONS AND TECHNICAL DATA

Installation: Over any smooth, firm interior surface removed from greases and oils. New KenSet Adhesive\* makes possible fast, easy and economical installation over concrete in contact with the earth.

Thicknesses: KenRubber is available in .080" (standard gauge) and 1/8" gauge for normal flooring demands...3/16" gauge for extra-heavy duty applications.

Sizes: Standard tile size is 9" x 9"...with a wide range of special sizes available on order.

NEW KENCOVE flexible wall base, completes

the ideal KenRubber installation ... bridges the gap where floor meets wall. KenCove can't break, chip, crack or rot...can't support animal or bacterial life...never needs painting or refinishing.





KENRUBBER TILE FLOORS can be planned and designed to fill any decorative or functional need. For instance, the ThemeTile and Feature Strip shown in a private room here can easily and economically be installed in wards and corridors for directional lines, traffic lanes and area demarcations.

#### Approximate Installed Prices (per sq. ft.)

	Standard (.080") Gauge	1/8" Gauge	3/16" Gauge	
KENRUBBER	50¢	654	804	

These costs are based on a minimum area of 1,000 sq. ft. over concrete underfloor. Cost of KenRubber's exclusive die-cut ThemeTile inserts available on request.

Samples and technical literature available to accredited architects, builders and designers. Get them from your Kentile Flooring Contractor or write the nearest office listed below. Be sure to request samples of exclusive ThemeTile, colorful Feature Strip and KenCove, all-purpose, flexible cove base.



KenRubber is the floor your clients know and want...
BACKED BY MORE FULL-COLOR CONSUMER ADVERTISING
THAN ANY OTHER RUBBER TILE FLOOR

KENRUBBER

KENTILE . SPECIAL KENTILE . KENCORK . KENRUBBER . KENFLEX . KENFLOR

\*REB. U. S. PAT. GPF.

KENTILE, INC., 58 SECOND AVENUE, BROOKLYN 15, NEW YORK \* 350 FIFTH AVENUE, NEW YORK 1, NEW YORK \* 705 ARCHITECTS BUILDING. 17th AND SANSOM STREETS, PHILADELPHIA 3, PENNSYLVANIA \* 1211 NBC BUILDING, CLEVELAND 14, OHIO \* 900 PEACHTREE STREET N.E., ATLANTA 5, GEORGIA 2020 WALNUT STREET, KANSAS CITY 8, MISSOURI \* 4532 SO. KOLIN AVENUE, CHICAGO 32, ILLINOIS \* 4501 SANTA FE AVENUE, LOS ANGELES 58, CALIFORNIA

#### The Heart of the 0 ACOUSTICAL SYSTEM The "XYZ" TYPE "X" LOXIT CHANNEL of Dependable This Loxit Victory Regular ANCHORED TO CEILING Acoustical Acoustical Suspension System was engineered to care for Suspension conditions where furring chan-Systems nels are being used as the supporting structural members for the suspension system. It is simple and easy to use. TYPE "Y" This Loxit Victory Surface Applied System meets those conditions where no suspension is involved, with the tiles being applied directly to the ceiling. Using Loxit channels AC-400 with Loxit clips AC-421, this type of installation becomes both simple and practical. RUNNER AC-430 TYPE "Z" Consult your This Loxit Victory Acoustical Suspension System combines Types "X" and "Y" and provides training and facilities for leveling the suspension members of the system by shimming between the Loxit channels AC-400 or AC-1000, depending on the span, and the furring channels, bar joists or other structural sections. help you in

The new improved Loxit Victory Acoustical Suspension System, used individually or in combination, meets all acoustical tile-setting conditions and offers five important mechanical advantages. One clip cares for all sizes of furring channels, fitting the channel tightly because the groove of the clip and the locking lugs are both beveled. Clips AC-420 being right and left, and Clips AC-421 being reversible as well as the runners AC-430, right and left conditions are automatically provided for. Both AC-420 and AC-421 clips can be used as splices for runner AC-430, eliminating separate splicing clips. The supporting flanges of the runner AC-430 are single thicknesses of metal on both sides (same thickness as the splines), reducing the thickness of the kerf in the tiles to that of a single thin saw blade, automatically assuring proper alignment of the acoustical tiles and an anti-breathing seal.

Literature, samples and catalogs are available

LOXIT SYSTEMS, INC., 1217 W. WASHINGTON BLVD., CHICAGO 7, ILLINOIS

SYSTEMS

#### THE RECORD REPORTS

#### CHICAGO COMPETITION

(Continued from page 10)

tion to the resolution of the future of the Central Commercial District of Chicago."

Officials of the Chicago Plan Commission, which was to receive the prize-winning plans after they had been exhibited at the Chicago Art Institute, appeared to agree with the jury. William M. Spencer, commission chairman, noted that the competition provided the Com-

mission gratis with a kind of study of the Central District redevelopment problem which it could never otherwise have afforded; he saw the competition results as "highly imaginative and exciting" and certain to be utilized by the Commission as part of a 100-year development plan that will ultimately be realized.

The winners were selected by a five-

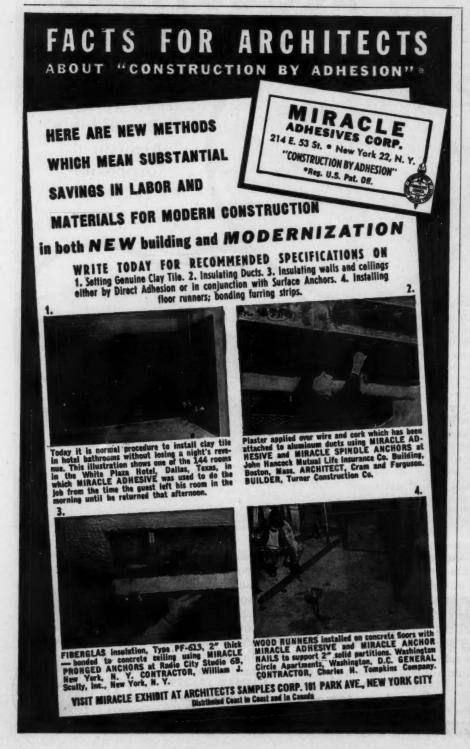
man panel of judges headed by Dr. Henry T. Heald, chancellor of New York University and former president of Illinois Institute of Technology. Others on the jury were: Robert E. Alexander, Los Angeles architect and city planner; Miles L. Colean, Washington, D. C., architect and economist; Ladislas Segoe, Cincinnati engineer and city planner; and George Barton, Evanston traffic engineer. Howard L. Cheney, F.A.I.A., of Evanston, served as professional adviser for the competition.

In addition to the first three awards, there were five Fourth Award winners of \$500 each:

"Lewis Clarke" team: Lewis Clarke, assistant professor, Roger Montgomery and Ben Gary Jr., students, School of Design, North Carolina State College, Raleigh, N. C.; "Maston & Zwicker" team: Carl L. Maston, architect, and Beda Zwicker, designer, Los Angeles; "Glory" team: Marvin E. Goody, instructor, Kevin Lynch, assistant professor, Rai Y. Okamoto, instructor, Ralph Repson, assistant professor, and Burnham Kelly, associate professor, Department of Architecture and City Planning, Massachusetts Institute of Technology, Cambridge, Mass.; "Cert Collaborative" team: C. H. Jordan, R. W. Heck, T. G. Hansen and E. Keith McPheeters, architectural professors, Auburn Polytechnic Institute, Auburn, Ala.; "Phoenix Group" team: Edward J. Hustoles, Ruth V. Wilson, Carl Almblad, George Vilican Jr., Maurice D. Chancler and Arthur M. Shatz, Detroit City Plan Commission, and Richard H. Jennings, Detroit.

Honorable Mentions were given as follows:

Charles Alexander Blessing, Director, Detroit City Plan Commission; team of Kenneth H. Dillon, Hollywood, Cal., designer, Blaine N. Rawdon, North Hollywood, Cal., designer-draftsman and Harry Salm, designer, of The Hague, Netherlands; team of Witold K. von Hennaberg, architect and planner, and Jacek von Henneberg, Harvard instructor, partners in the Cambridge, Mass., firm of Henneberg & Henneberg, James A. S. Walker, Harvard student, and James L. Harris, Cambridge, Mass., architect and planner; Joseph Burnett, Chicago architectural designer; team of Richard N. Wenick, Thomas W. Hefley, William Koster, Gordon Garn and Richard H. Peacock, all students or graduates of the University of Cincinnati Department of Architecture; team of Barnett Berliner, member, and Sanford Greenfield and Bernard Rothzeid, graduate students, M.I.T. Department of Architecture, William Goodman, assistant professor, Harvard, and Morse Payne, architect and planner, Brookline, Mass.; team of Howard T. Fischer, J. Edwin Quinn and Alfred Burnes, Chicago architects, Roland A. Wank, New York architect, and Carl L. Gardner, Chicago city planner; team of J. Byers Hays, Cleveland architect, Stephen A. Kaufman and Morton J. Schussheim, Cleveland city planner, and Alfred D. Yanda, Cleveland civil engineer; Harry Weese, Chicago architect; team of Robert L. Geddes, Blanche Lemco, Martin A. D. Meyerson and George Qualls, of the faculty of the Departments of Architecture and Land and City Planning, University of Pennsylvania; team of Kurt K. Perlsee, Clayton, Mo., architect and visiting professor, Washington University, and Niels Stoermer, St. Louis architect.



# NEW USES BETTER DESIGNS BETTER CONSTRUCTION PRACTICES WITH

# aids for architects CONCRETE MASONRY

Here are just a few of many NCMA aids to architects
— all available through your local NCMA member:



Wall Pattern Ideas—The wide variety of wall patterns using 8" high concrete masonry units, as well as new sizes, shapes, colors and textures now available in many areas, provide unequaled design versatility. Many wall pattern ideas are illustrated in the booklet, Ideas for Wall Patterns with Concrete Masonry,

winner of Exceptional Merit award in 1954 AIA-Producers' Council competition.



Control Joint Dosigns and Usos—Architects are making increased use of "control" or "expansion" joints to allow for stresses that occur in any masonry wall. Well designed and spaced control joints provide a continuous vertical separation through the wall thickness, eliminating most of the problems associated with wall movement. The NCMA lintel design booklet, and the "Construction Details" portfolio show several widely used control joint systems.



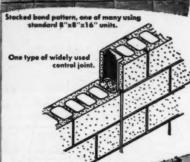
Lintel Designs—Properly designed and reinforced lintels span doors, windows, and other openings in masonry walls, supporting the weight of the wall and transmitting these loads to adjacent masonry. Award-winning NCMA booklet, Design and Construction of Lintels, gives reliable design and load recommendations.

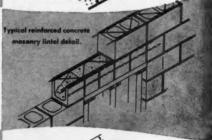


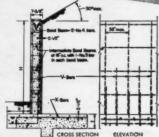
Retaining Wall Designs—A new NGMA booklet, Reinforced Concrete Masonry Retaining Walls, gives recommendations for the design and construction of concrete masonry retaining walls up to 10 feet in height, along with sample calculations, reinforcing recommendations and load tests.

Note: All of these, and many other helpful design aids, are available from any local concrete masonry manufacturer who is a member of NCMA.









Typical detail for cantilever

DESIGNING A HOSPITAL? A SCHOOL? Check on these advantages of concrete masonry construction:

- Low installed-in-the-wall cost.
- Design versatility—with wide choice of wall patterns.
- Durability, fire-safety, low maintenance.
- Beautiful, cost-saving interior walls, too!

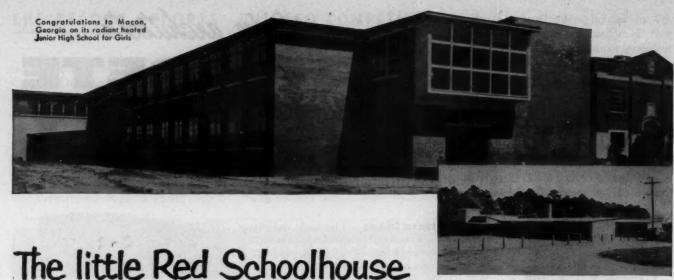
Exposed concrete masonry interior walls save on finishing costs; absorb sound.

**National Concrete Masonry Association** 

38 South Dearborn Street

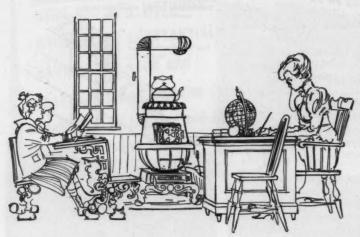
Chicago, Illinois





Albany, Georgia keeps pace with radiant heated

### ... aint what she used to be!





Beautiful Lakeview School, Vass, N. Carolina will be comfortable, too, with radiant heating

Typical installation in modern schoolroom

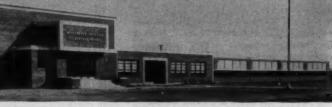


Memories of the little red schoolhouse and the heart-tugging refrain "school days, school days, good old golden rule days" are fine . . . sentimentally. Practically, we Americans have too much concern for the health and welfare of our children to really want to return to the era of the wood stove and kerosene lamp. The hickory stick . . . maybe . . . but not the others!

We take pride in the finest school buildings in the world because we know that the education of our children is the most *important* thing in the world . . . basic to American progress. So we're not "soft," just realistic, in providing the best light, heat, sanitation and recreational facilities possible. Healthy children learn more, faster.

All over the country new schools are incorporating radiant heating because its gentle, all-permeating, sunlike warmth... without hot or cold spots, drafts, or dust laden currents... provides the most healthful school heating known. Concealed heat sources and controls resist vandalism, promote safety, save valuable floor and wall space and improve classroom appearance. Auditoriums and gymnasiums (even swimming pools!) derive particular benefit.

Steel pipe is, of course, first choice for radiant heating as it is for conventional heating . . . proved in more than 60 years of service in steam and hot water systems. In fact steel pipe is the most widely used pipe in the world, for heating, plumbing, snow melting, fire sprinkler systems and the transmission of power, steam and air.



Washington - Douglass Elementary School, Jackson, Tenn.,

Send for free 48 page color booklet "Radiant Panel Heating with Steel Pipe" and 32 page companion booklet "Steel Pipe Snow Melting and Ice Removal Systems."

Committee on

#### STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE 350 FIFTH AVENUE, NEW YORK 1, N.Y.





Incandescent and fluorescent light are combined to illuminate this exhibit of 16th and 17th Century English Art in glare-free, shadow-free lighting. Water-white curved lens panels and lenslites blend the two types of light.

Architects—R. B. O'Connor & Aymar Embury II

Architects and Engineers—Voorhees, Walker Foley & Smith
Architects—Brown, Lawford & Forbes
Engineers—Edw. E. Ashley
Recessed Lighting Fixtures by Eastern Lighting Products, Inc.



Ceiling in this room is of specially designed panels of waterwhite crystal by Corning. Louvers of Alba-Lite shield directional lighting used to highlight centers of attention.

# How Metropolitan Museum created natural lighting for great art exhibits

Visitors to New York's "new" Metropolitan Museum now enjoy the world's great art treasures in shadowfree, glareless lighting.

In his role as the Museum's consulting engineer for the \$9,000,000 restoration program, Laurence S. Harrison sought to create a lighting system approaching the ideal qualities of daylight in the exhibit rooms and corridors. He achieved his aim with a combination of incandescent and flourescent lighting, skylights and a wide variety of Corning Engineered Lightingware.

Corning developed a new waterwhite crystal glass with true color transmission characteristics to meet exacting specifications. This glass in 2-ft. square panels is installed in the skylight ceilings, in the second floor galleries. Formed into curved prismatic lens panels, it is also used extensively in recessed fluorescent troffer fixtures in lighting the first floor galleries.

True colors assured

Corning Alba-Lite glass because of its ability to diffuse and transmit fluorescent light without altering color is used in the fixture installed in the ground floor galleries.

Corning's Pyrex brand "Double-Tough" Lenslites are used to direct the light from incandescent lamps. They resist both thermal and impact shock.

You find the answer to a great variety of lighting problems in Corning Engineered Lightingware. To learn more about the many kinds of Corning lightingware available, write for Bulletin LS-43, "Architects and Engineers Handbook of Lighting Glassware."



CORNING GLASS WORKS CORNING, N. Y.

Corning means research in Glass

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Please send me a copy of the "Ar Glassware."	chitects and Engineers Handbook of Lighting
Name	Title
Company	***************************************
Address	
City	ZoneState

#### THE RECORD REPORTS

WASHINGTON (Cont. from page 38)

they should; but the additional personnel planned in this department probably cannot now be hired.

Commissioner Mason considers the wording of the preamble to the National Housing Act as a policy mandate for his agency to encourage improvements in housing standards. He has referred to Mr. Connor as one of the two key FHA officials in the housing standards operation. The other is Charles A. Bowser, assistant for technical standards.

When he announced Mr. Connor's appointment, Commissioner Mason said: "In its early days, it was natural that the FHA sought to establish minimum requirements. These, of course, will be continued; but weight also must be given to a broader concept with emphasis upon valuation appraisal."

# MICHAELS QUALITY PRODUCTS for your building projects HOLY SEPULCHE MAUSOLELM

The bronze doors of the Holy Sepulchre Mausoleum, Detroit, are another typical example of Michaels products for the building industry. In addition to doors, Michaels produces many building products of stainless steel, aluminum and bronze.

Behind this organization is 84 years of experience in the production of high-quality products, and in working with architects and contractors, faithfully reproducing in metal their most intricate designs. When your



Literature on all Michaels products will be sent on request.

plans call for metal building materials, we believe it will be to your advantage to get in touch with Michaels.

May we suggest you send us a set of plans for your next project, irrespective of its size, and learn what Michaels has to offer. We are confident you will find our prices right, and that Michaels is a thoroughly reliable source of supply for everything you need in stainless steel, aluminum or

#### **Michaels Products**

- Bank Screens and Partitions
- Partitions
  Bronze Doors
  Aluminum Doors
  Elevator Doors
  Store Fronts
  Name Pi

- (standing and wall)
  Lamp Standards
  Marquees
  Tablets and Signs
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- Extruded Thre MI-CO Parking

#### MICHAELS ART BRONZE CO., INC.

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Manufacturers since 1870 of many products in Aluminum, Bronze and other metals

#### Accent on the Maximum?

In a recent Chicago speech, the Commissioner put it another way:

"You don't leave much room for imagination in design when you accent only the minimum," he said.

Discussing the government's 24 ft x 36 ft "box house," which he admitted had become "institutionalized" in the last few years, Mr. Mason noted that many families who occupied two-bedroom homes a few years ago now are shopping around for larger dwellings. There will be more three- and fourbedroom houses built, the Commissioner predicted, with more closet and storage space than now; greater use will be made of folding partitions.

"With the help of the National Bureau of Standards, the Building Research Advisory Board, and industry, FHA must learn the answer."

#### '55 CONSTRUCTION FUNDS FAR UNDER BUDGET LEVEL

THE SECOND SESSION of the Eighty-third Congress was anything but generous in its handling of construction funds. Federal programs consistently turned up with operating money well below the figures submitted by the Bureau of the Budget, and in the closing days of the session the members took a healthy "meat axe" swing at the sizeable askings for construction purposes included in the supplemental appropriations measure.

Several new items appeared in the fiscal 1955 documents, among them a request for \$1.1 million for the most comprehensive revision of the Federal government's construction statistics ever contemplated. Private industry showed unusual interest in this proposed undertaking and supported the programs submitted to Congress by the Bureau of Labor Statistics on the housing series, and by the Business and Defense Services Administration of the Department of Commerce on nonresidential work. The U. S. Chamber of Commerce broke a long-time precedent and by order of its Board of Directors sent representatives before Congressional committees to plead for funds for the purpose of improving the statistical data upon which industry relies so heavily.

#### Statistics Revision Refused

The House stand on the matter was adamant from the first. It refused funds, and its views prevailed in conference (Continued on page 336)



BATHROOMS AND BEDROOMS are where most soiled laundry originates. The logical place to locate a laundry is adjacent to these areas, where dual use of plumbing supply and drain lines is possible.

LOW-COST CUSTOM MODELS have all essential features for top performance.



#### "NEW Way to Wash" Twins Arrive

## Famous Westinghouse Laundromat® and Dryer build maximum interest in only 5'-3" floor space

New home buyers today want complete automatic laundry areas. To satisfy this demand, Westinghouse introduces new De Luxe Twins, styled for attention and engineered for value.

The De Luxe Laundromat offers a "New Way To Wash" with its patented Agi-Tumble Action that makes obsolete all other methods. Its Single Dial Control provides complete flexibility in washing time and temperatures. Its Weigh-to-Save Door and Water Saver allow sizable economies in hot water and detergents.

The companion De Luxe Clothes Dryer features an exclusive direct air flow system that dries clothes faster. The fully automatic Control Dial provides special flexibility for miracle fabrics; also complete drying for storage and damp drying for ironing.

In most cases these De Luxe Twins can be flush installed. Both have the new Laundrofile that keeps operating instructions on the back panel within easy reach.

Get complete specifications from your Westinghouse Distributor or write direct.

WESTINGHOUSE ELECTRIC CORPORATION
Electric Appliance Division • Mansfield, Ohio

YOU CAN BE SURE ... IF IT'S Westinghouse

# "We wanted minimum cost, maximum efficiency over a 20-year period"

- DR. W. F. WALDECK, DIRECTOR OF RESEARCH AND DEVELOPMENT, WYANDOTTE CHEMICALS CORP.



All air in new Wyandotte Research Laboratories is cleaned, conditioned, humidified, then distributed by American Blower fans.

### ... AMERICAN BLOWER was specified!

Choosing the right air handling equipment was a must in designing Wyandotte Chemicals' new multi-million dollar research building. Dr. W. F. Waldeck, Director of Research and Development, stated the objectives: "Minimum cost over a 20-year period and maximum convenience and efficiency for every phase of our research work."

After careful study, American Blower air handling equipment was specified for its dependability and quiet operation.

All air for Wyandotte's new research building is conditioned, washed and filtered, with each laboratory hood an integral part of the conditioning as well as

ventilating systems. Each hood has an individual, twospeed exhaust fan—the chemist himself controls room and hood ventilation. Secondary air is automatically provided in each laboratory when the hood exhaust fan is turned to high speed.

American Blower engineers have a complete knowledge of the air cycle and the special problems of many industries. Let their experience work for you. Whenever you have an air handling problem, give your nearest American Blower or Canadian Sirocco Office a call.

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CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO
Division of American Radiator & Standard Sanitary Corporation



Unit Heaters



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Utility Sets

YOUR BEST AMERICAN



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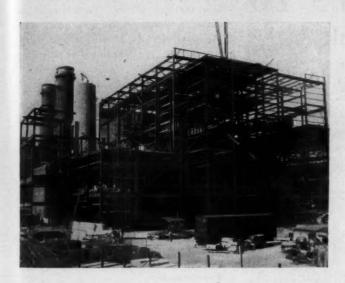
AIR HANDLING

Serving bome and industry: American-Standard - American blower - Church Seats & Wall tile - Detroit controls - Kewanee Bollers - ROSS Exchangers - Sunbeam air conditioners

# Four New Power Stations

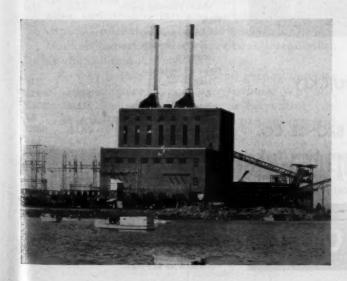
#### MOSS LANDING, CALIFORNIA

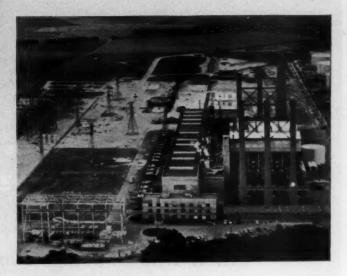
One of the West Coast's biggest generating plants is Pacific Gas and Electric's 575-mw steam plant on Monterey Bay. Bethlehem Pacific Coast Steel Corporation fabricated and erected the steelwork, and fabricated the switching structures and transmission towers shown here.



#### MARTINS CREEK, PENNSYLVANIA

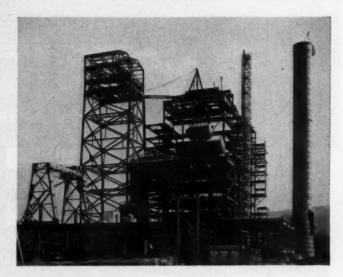
Pennsylvania Power and Light's new 132.5-mw outdoor plant on the Delaware River was designed to operate only 3,000 to 4,000 hours per year, handling peak loads. Investment was minimized by such economies as eliminating housings for much of the equipment, leaving exposed a good deal of the 2300-ton steel framework. A second unit is under construction.





#### ALEXANDRIA, VIRGINIA

Back in 1948, Bethlehem fabricated and erected 3800 tons of steelwork for Potomac Electric's 160-mw steam-electric plant. Greatly increased power requirements have since made it necessary to construct this 3500-ton addition, to house two new 100-mw units. Final capacity will total 360 mw.



#### DUNKIRK, NEW YORK

Niagara Mohawk's ultra-modern steam-electric generating station on Lake Erie. The steam turbine of each of the two 80-mw units is of a new design, first of its type ever made. Over 5000 tons of steel, fabricated and erected by Bethlehem Steel Company, went into the station's structural framework and boiler supports.

#### BETHLEHEM STEEL COMPANY BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Corporation.



#### BETHLEHEM STEEL

#### THE RECORD REPORTS

committee even after the Senate had voted to allow \$600,000 for BDSA plans, and the full amount of \$110,000 requested by the BLS for doctoring its housing series. No money was voted for the purpose.

In this instance, both industry and government were bitterly disappointed to see their combined efforts unavailing. It can be expected there will be an equally strong campaign in the EightyWASHINGTON (Cont. from page 332)

fourth Congress to secure funds with which to do the overhauling job.

#### Housing Agency Funds Clipped

The housing agencies had similar cause for complaint. Their budget askings were trimmed severely in the supplemental appropriation measure which raced through under pressure during the closing days of the session. The Federal

Housing Administration, for example, asked \$1,350,000 for administrative expenses, anticipating the greatly increased work load now resulting from the new housing law. The Senate approved this full amount in its original passage of the bill, but House conferee pressure was strong and succeeded in reducing the figure to \$350,000.

A spokesman said this probably would enable the FHA field offices to hold their added personnel, but would not permit the hoped-for increases to staff to deal with Title I abuses and other policing problems. The headquarters office would just about be able to hold its own under this figure, he said.

Of \$4 million requested for non-administrative expenses - largely field operations - only \$1,250,000 finally was approved after the Senate had first voted (Continued on page 340)

## 8 IN THE ENTRANCES TO

Union Dime Savings Bank



The Door that lets TRAFFIC through QUICKLY

llison

ELLISON BRONZE CO.

Jamestown, New York

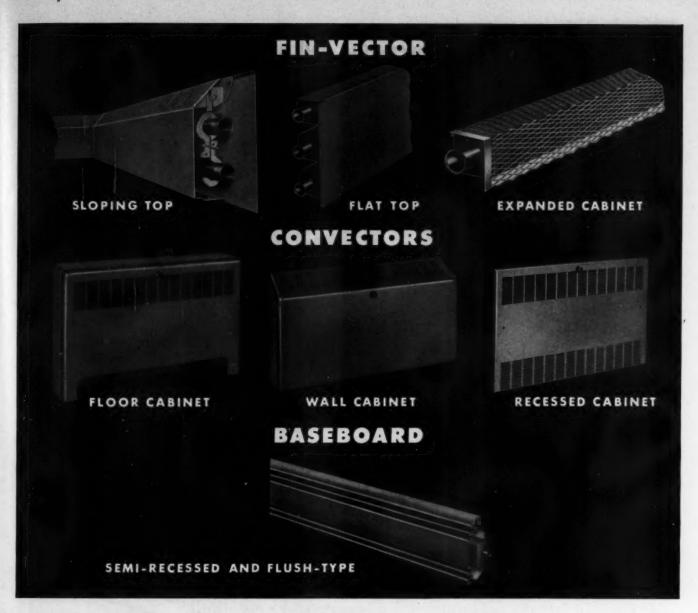
representatives in 78 principal cities in the United States and Canada

the BALANCED DOOR

#### SCOREBOARD ON CONSTRUCTION FUNDS

(Supplemental Appropriations Bills \*) (In Millions)

Final 1955	
0	
2.0	
.9	
1.0	
1.1	
2.0	
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1.0	
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5.0	
5.0	
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3.7	
7.5	
5.3	
5.9	
.6	



## Here's everything you need in radiation ...from the complete Dunham line

Getting your hands on the particular kind of radiation you need is fast and simple... when you depend on Dunham. The reason, of course, is that Dunham has as complete a line of quality radiation as you can find ... anywhere!

So why bother to shop around getting one type of radiation here . . . another type there? Why not, instead, depend on Dunham for everything you need in radiation from flush-type or semi-recessed

baseboard; flat top, sloping top or expanded metal along-the-wall Fin-Vector®; to sturdy, attractive high-capacity convectors.

"Let Dunham do it" and you not only get everything you need in a hurry, you also place full responsibility for your job's performance on one set of shoulders—Dunham's. For complete information about this complete radiation line, clip and mail the coupon.



## HEATING & COOLING EQUIPMENT

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QUALITY FIRST FOR FIFTY-ONE YEARS

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Send literature on  Convectors.		
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Firm		
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Address	 	

Visioneering\* answers the call of Psychiatric Authorities



Mayview Hospital, Mayview City, Pittsburgh, P.
Alfenhaf and Bown, Architects, Pittsburgh, Pa.
Allegham College, Co., Builders, Pittsburgh, Pa

### Look at these features:

Designed specifically for psychiatric institutional needs, this Bayley Window offers features demanded by mental hospital authorities; such as:

Safeguards against escape • Better daylighting • Controlled ventilation • Large areas of clear glass vision • Minimizes self injury • Working parts concealed • Sanitary, easy to clean • Glass washed from inside • Reduces maintenance and interference with hospital routine • Reduces detention appearance • Can be fitted with inside screens and drapes.

Your requirements may call for this or an entirely different type of window. In any case you'll find Bayley qualified and cooperative in helping you solve your problem with either aluminum or steel windows. For complete information write or phone today:

\*Visioneering—The science of coordinating vision, air and light in modern building walls with windows of advanced design.



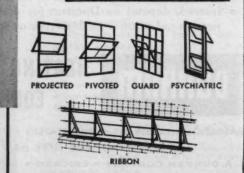
See Bayley in Sweet's. Complete catalogs on aluminum windows, 16a/Bay; and steel windows, 16b/Ba. Or write Bayley for details on your specific requirements.

Copyright 1954 The William Bayley Co.

#### THE WILLIAM BAYLEY COMPANY

Springfield, Ohio

District Sales Offices: Springfield — Chicago — New York — Washington



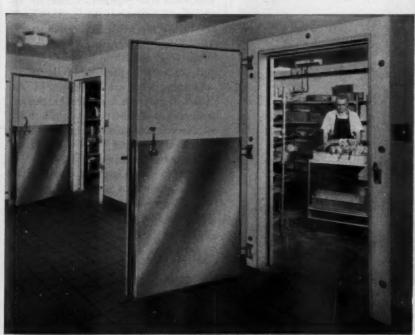
# JAMISON DOORS SELECTED

# For Finest In Food Storage At Mt. Zion Hospital, San Francisco

Ten Jamison Doors in all, seven Standard Cooler and Freezer Doors and three Lo-Temp Doors, were installed at Mt. Zion Hospital, San Francisco. Architects Skidmore, Owings and Merrill... credit for insulation work goes to Armstrong Cork Company. Once again, JAMISON, leader in insulated doors is preferred by leaders who will accept nothing less than the best! JAMISON COLD STORAGE DOOR COMPANY, HAGERSTOWN, MD., U.S.A.



ATTRACTIVE APPEARANCE... Glistening white enamel over galvanized metal cladding and chrome hardware. Match harmoniously with the sanitary walls. The three doors above (l. to r.) lead to: cold cuts room; vegetable and fruit room; meat room.



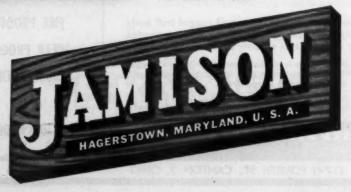
STAINLESS KICK PLATES... Provide beauty, sanitation and extra strength on back of door. The extra strength protects the door against battering of trucks. Note also the extra wide door openings to accommodate large meat trucks.



The Leader For More Than 50 Years



**EASILY OPENED...** The Wedgetight Fastener maintains a tight seal, so that the door can be opened readily from either side with minimum effort.



#### THE RECORD REPORTS

to give this part of the program \$3 million.

The revolving fund for public facilities loans was dropped to \$2 million from Budget's request of \$25 million; \$1.5 million was allowed for building a reserve of planned public works (the third "advance planning" program) after \$10 million had been sought, and \$1 million was voted for urban planning WASHINGTON (Cont. from page 336)

grants, a reduction from \$5 million sought.

#### Military Cut - But Less

In other fields the cuts were not so noticeable on the surface but were just as keenly felt. The Army public works program, long carrying a large backlog of accumulated appropriations, was allowed \$207.3 million to be spent from these previous monies. Officials had asked for permission to dip into these funds to the extent of \$245.6 million. Navy's public works program received \$196 million after \$221.4 million had been asked.

The Air Force public works program, the big one, was trimmed from a \$945.9 million budget request down to \$630 million. This compared with \$240.7 million appropriated for fiscal 1954.

The Army's civil functions activities were given \$5.9 million, in the supplemental measure, to be added to the whopping \$300.3 million that this construction received in the regular appropriations bills for fiscal 1955. A total of \$6.3 million had been asked in supplemental funds for rivers and harbors and flood control work.

#### SOCIAL SECURITY COVERS ARCHITECTS, ENGINEERS

The hectic closing hours of Congress produced the social security extension bill bringing the nation's self-employed architects and engineers under the retirement benefits on a compulsory basis.

The new law will affect approximately 18,000 registered engineers (10 per cent of the total number in the country) and an estimated 70 per cent of the 10,000 architects who are members of the A.I.A.; figures on non-A.I.A. architects were not available.

Those individuals who have operated under a corporate form - and many engineers and architects are so operating already have been covered and do not change status under this measure. Only those who are "self-employed" in the strict sense are affected.

#### **ADDENDA**

RECENT APPOINTMENTS: Rudolph Weitz, to succeed Rear Admiral Joseph F. Jelley Jr. as Deputy Assistant Secretary of Defense for Properties and Installations. Admiral Jelley has returned to duty with the Navy. . . . Tracy B. Augur, as assistant director for urban planning assistance in the Housing and Home Finance Agency. . . . Loder L. Patterson, as director of the Federal Housing Administration's Division of Slum Clearance and Urban Renewal. . . . J. George Stewart, a civil engineer of Hollywood, Fla., as "Architect of the Capitol" to succeed David Lynn, also an engineer. The title is not a very clear

(Continued on page 344)



Ideal for use in Corridors and other large areas of Schools, Hospitals and other Institutions.

This new enlarged shape covers more area per piece and simplifies installation. It has recently been added to the versatile ROMANY line and possesses all the high quality characteristics that have made ROMANY Tile preeminent in the building field.

The "hard as steel" glaze and rugged buff body defy wear and this 6"x9" tile is recommended for use wherever a sturdy tile is needed.

ROMANY Tile is regularly featured in Sweet's Catalog. Detailed information to meet specific requirements will be gladly furnished upon request.

Correspondence Invited

#### RITED STATES QUADRY TILE

217-H FOURTH ST., CANTON 2, OHIO

consider these outstanding features ROMANY IS: **FIRE PROOF WEAR PROOF** 

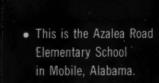
for the specification

AND ACID PROOF

FADE PROOF

And is available in more than 30 attractive colors.

# You can't beat light from the sky!



Architects:
 Ellis & Winter, Mobile.

THE picture shows a recent installation of PC Skytrol Blocks. Notice how much light there is — without harshness. Skytrol Blocks contain a fibrous glass diffusing screen that softens the light and makes it easy on the eyes.

That screen does something else, too. It divides the block into two cavities resulting in an impressive insulation value of U=0.44. This eliminates many of the age-old problems of skylights: there is little or no condensation, no cold zone under the panel, no increase in heating costs.

PC Skytrol Blocks are cast into a rigid, steel-reinforced concrete grid that won't warp or rust. There is nothing to putty or calk. It's a thoroughly proved method of toplighting—used in Europe for many years.

Best of all is the cost. The installed cost of Skytrol panels is running about \$4.50 to \$6.50 a square foot, depending on the job. For more information consult Sweet's or write to Pittsburgh Corning Corporation, Dept. C-104, One Gateway Center, Pittsburgh 22, Pennsylvania.

d

**New.** Skytrol Blocks are now available with the new Suntrol pale green diffusing screen to reduce heat and glare in difficult locations.







ALSO PC GLASS BLOCKS AND FOAMGLAS®

#### "REINFORCED CONCRETE

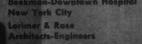
was a substantial factor in its economy"

Concerning this modern emergency hospital, Mr. A. Gordon Lorimer, architect, writes, "Actual competitive bidding obtained by the New York Housing Authority (for similar construction) has repeatedly established a substantial cost differential for reinforced concrete."

He added that, "The ceilings in large parts of the hospital were left as smooth concrete, and then painted, which produced appreciable savings."

Not only does reinforced concrete cut costs but it also allows work to be started sooner, because materials are available locally. Actual erection time is less, too.

On your next job . . . design for reinforced concrete.



Compare ...

YOU'LL SAVE WITH REINFORCED CONCRETE



38 South Dearborn Street, Chicago 3, Illinois

CONCRETE REINFORCING STEEL INSTITUTE

For lasting value in roof insulation, specify

## FIBERGLAS\*



3 MILLION SQUARE FEET OF FIBERGIAS ROOF INSULATION—General Electric's Appliance Park, Louisville, Kentucky. Architect: Albert Kahn & Assoc., Detroit. Gen. Cont'r: Turner-Struck Const. Co., Buechle, Ky. Roofers: Brown and Kerr Roofing Co., Chicago; Schreiber Roofing, Detroit, Mich.

- 1. More thermally efficient, thickness for thickness
- 2. Longer lasting because it will not rot
- ★ Its low "k" value provides more insulation in relation to thickness.
- \* Resists fire and moisture, will not decay, swell, shrink or buckle.
- ★ Light weight and easy to apply, can be cut on job.
- ★ Resilient and non-brittle, absorbs shock and pressures on felts without rupturing.
- \* Approved for bonded roofs.

#### PRODUCT DATA— FIBERGLAS ROOF INSULATION

Standard Size—24" x 48" Packaged in Paper-wrapped Bundles

THICKNESS (Inches)	CONDUCTANCE at 75°F Mean Temp (Btu/hr./ Sq. Ft./°F.)*
1/2 3/4 7/8 1 11/4 11/2 13/4 2	.50 .33 .30 .25 .20 .17 .15

\*Subject to manufacturing and testing tolerances.

FIBERGLAS

When you specify roof insulation, remember . . . It's thermal efficiency that counts . . . not thickness!

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and through Fiberglas Sales Offices

\*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation.

#### THE RECORD REPORTS

indication of the job, which involves upkeep of the Capitol buildings and grounds—and management of the Capitol restaurants.

FORT BELVOIR, Va., has been chosen as the site for an experimental, full-scale but small nuclear power plant to be designed and built jointly by the Army Corps of Engineers and the Department of Defense. The plant is the protoWASHINGTON (Cont. from page 340)

type of a "package" or transportable power reactor which is being developed for use at remote bases, eliminating the need to transport bulky conventional fuels.

Congress imposed some important limitations on the use of the \$175 million it appropriated for military housing construction. Most important from the long-range standpoint was the philosophy

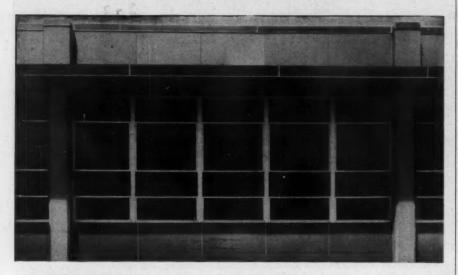
contained in a Senate amendment which became part of the law. This prevents mass construction of projects at bases where Wherry Act housing already exists or where it could be built efficiently. The law also specifies that before appropriated funds can be used for family housing on permanent installations, the Secretary of Defense must certify that (1) it is impractical to build under the Wherry Act; (2) adequate housing at reasonable rental rates is not available in the immediate vicinity; and (3) it is impracticable to acquire suitable housing under other existing provisions of law.

THE NEW HOOVER COMMISSION began a study of Federal government real estate policies. A task group headed by John R. Lotz, New York City, will look into Federal property holdings and try to develop "sound business principles, practices and procedures for planning, acquiring, improving through construction, managing, maintaining, and inventorying" such property.

THE HHFA WOUND UP its lengthy probe of Federal Housing Administration. Deputy HHFA Administrator William F. McKenna turned over details to a strengthened compliance division after giving all information on possible criminal violations to the Federal Bureau of Investigation. In a parting shot statement, he said the thorough investigation had convinced him that the Section 608 abuses stemmed not from poor legislation but from faulty administration. The builders' opportunities came from poor administration of the law, he said. "There was graft and corruption on a high level and we can demonstrate it in detail if we have to." Later he told newsmen that his remarks could not be construed to mean that more than one former FHA employe might be indicted.

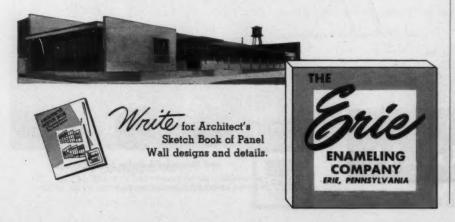
Among its last efforts was passage by the 83rd Congress of the bill extending the renegotiation law until December 31, 1954. The previous law expired with 1953, but Congress had an extension under consideration and the operations of the Renegotiation Board were not interrupted. The Board did postpone acceptance of filings for 1953 which were due on April 1. Filings ran around 40,000 for each of the fiscal years, 1951 and 1952. The new law raises the minimum amount of contractor compensation renegotiable from \$250,000 to \$500,000 for fiscal years/ending on and after June 30, 1953.

(More news on page 348)



## NOW a Proved System for PORCELAIN ENAMEL PANEL WALLS

ERIE has a developed system of insulated or filled Porcelain Enamel Panels suitable for spandrel walls, panel walls or window walls. Supporting methods, attachment, insulation and other detailing is complete and readily adaptable to your designs. This system meets most city codes and is ideally suited to multi-story construction. If you've wanted to use Porcelain Enamel in panel wall construction, let ERIE give you the answers and the material!



# Servel HEATS M COOLS

this building for less than \$17500 a month year 'round!

Through Topeka's temperatures of 4° to 108°, heating, cooling and air-conditioning this 7-floor office building cost only \$2000 in gas bills for the entire year of 1952!

#### These facts speak for themselves:

Installation: 823 Quincy Building, Topeka—7 floors, 92,000 square feet of occupied area, 600 population. Owner-operator, John R. Peach; architect, Stookey & Howells; general contractor, M. W. Watson; occupant, Southwestern Bell Telephone Company.

Servel equipment: 38 5-ton units—2-unit increment in basement; 5-unit increment on each of first six floors; 6-unit increment on top floor.

Performance: "Very satisfactory"—despite temperatures ranging from 4° to 108°F., and with outstanding fuel economy (see charts). Except for electricity for pump and fan motors, \$2071.66 paid the entire fuel cost for the full year of 1952. Because of Servel's exclusive absorption principle, with no moving parts in the heating or cooling system, operation is quiet, vibration-free. Says John R. Peach: "We are now adding three floors to the building, and of course favor Servel."

Servel equipment uses heat to produce cold—will operate on the most economical fuel in your area: gas, oil, steam or waste heat. Every Servel unit carries a full five-year warranty. Get in touch with your nearest Servel dealer or write Servel, Inc., Dept. AR-104, Evansville 20, Indiana.

Extreme highs

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Average maximums

Average minimums

Extreme laws

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F. M. A. M. J. J. A. S. O. N. D.

TOPEKA'S 1952 TEMPERATURES

ART WEST COLORS AND ASSESSED ASSESSED OF THE ASSESSED ASS

Servel

the name to watch for great advances in

AIR CONDITIONING Y REFRIGERATION

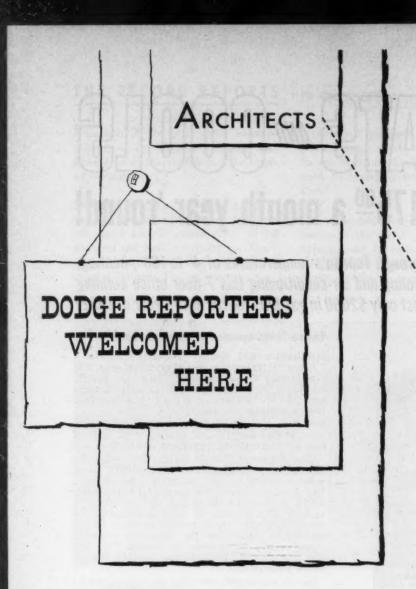
SERVEL,	INC.,	Dept.	AR-104,	Evansville	20,	Indiana
,						

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Address

City\_\_\_\_\_State\_\_\_



More than 60 years ago, the country's leading architects began hanging out the welcome sign for Dodge Reporters.

Realistic fellows, they recognized the benefits to be derived from timely, systematic interchange of information in the construction field. They saw here the possibilities for their clients and for all concerned... a wider range of bids... more complete news of new products, new trends, new techniques, and a saving of much time wasted on salesmen uninformed as to the architects' current interests.

For example, information given to the Dodge Reporter reaches manufacturing suppliers via Dodge Reports. Their salesmen are then able to provide architects with pertinent information at the very time such information is needed. The increased marketing efficiency and resultant lower costs of construction form the sound economic base for the continuing welcome extended to Dodge Reporters by the architectural profession.



## **DODGE REPORTS**

F. W. DODGE CORPORATION

119 West 40th Street . New York 18, N. Y.

# Great New Benefits Announced In Roof Construction!



## And Adaptable To Any Roof Deck Design!

Nowhere in the construction industry is there to be found an equal to Zonolite systems of lightweight roof construction. They are simple in design, lightweight, firesafe, insulating, speedy in erection, strong, durable, have good appearance. Yet in spite of these added benefits, they are low in cost. The systems of construction shown here are only a small portion of the combinations now made possible by the use of Zonolite vermiculite concrete. To make your next roof deck job—or any job—outstanding, we suggest you send for Zonolite's manual on roof systems.



#### Just Published!

Here is a book you'll refer to constantly... gives details of many roof deck systems... including design data, sectional drawings, etc. Mail coupon —no obligation.

Mail This Coupon-Today

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Please send me your new booklet, giving full details of Zonolite concrete roof systems.
Name
Address
CityZoneState
☐ Architect ☐ Builder Other

#### THE RECORD REPORTS (Continued from page 344)

#### ON THE CALENDAR

October\_

- Sierra Nevada Regional Conference, American Institute of Architects; theme, "Strengthening of Relationship between Chapters in the Region and the Octagon" - Hoberg's Lake County, Cal.
- 2-10 "Better Homes for a Better America": an exposition spon-

sored by the National Retail Lumber Dealers Association -Kingsbridge Armory, New York City

The 57th Annual Convention, National Hardwood Lumber Association — Houston, Tex.

11-14 Annual Meeting, National Association of Housing and Redevelopment Officials - Bellevue-Stratford Hotel, Philadelphia

The heart of the NEW

**INVENTION** is the

ADAPTO - CLUTCH.

The first in the

world to take

drawing leads of ALL DEGREES

and diameters

9H to 6B.

- 11-15 Fall General Meeting, American Institute of Electrical Engineers - Morrison Hotel, Chicago
- 13-16 Third Annual Conference on Atomic Energy in Industry, sponsored by National Industrial Conference Board — Hotel Commodore, New York City

13-17 Annual Convention, Audio Engineering Society - Hotel New Yorker, New York City

14-15 Annual Meeting, American Council on Education — Chicago

14-16 Annual Convention, Architects' Society of Ohio - Biltmore Hotel, Dayton

15-16 Second Annual Convention, Architectural Woodwork Institute - La Salle Hotel, Chicago

17-22 Semiannual Meeting, Society of Motion Picture and Television Engineers - Ambassador Hotel, Los Angeles

18-20 Annual Convention, American Association of Nursing Homes -Seelbach Hotel, Louisville, Ky.

18-22 Annual Convention, American Society of Civil Engineers -Hotel Statler, New York City

18-22 The 42nd National Safety Congress and Exposition, sponsored by the National Safety Council Hotels Conrad Hilton, Morrison and La Salle, Chicago

21-23 Annual Convention, New York State Association of Architects - Lake Placid Club, Lake Placid. N. Y.

21-23 Central States Regional Conference, American Institute of Architects; theme, "Of Grass Roots and Architecture" - Wichita, Kans.

24-29 The 84th Annual Congress of Correction — Bellevue-Stratford Hotel, Philadelphia

25-29 The 32nd Annual Convention, American Institute of Steel Construction - The Greenbrier, White Sulphur Springs, W. Va.

27-28 The Uses of Plastics in Building: a conference sponsored by the Building Research Institute, with the Manufacturing Chemists' Association, the Society of the Plastics Industry and the Building Research Advisory Board -National Academy of Sciences, Washington, D. C.

28-29 Seventh Regional Meeting, American Concrete Institute -Statler Hotel, Los Angeles

28-30 North Central Regional Conference, American Institute of Ar-(Continued on page 352)



sharpeners and machines. Though prominent researchers believed such a holder could not be practically manufactured, KOH-I-NOOR engineers persisted in their efforts. Now, the final result of costly laboratory research is the completely successful new KOH-I-NOOR holder with the ADAPTO-CLUTCH for leads of all degrees and all diameters.

Many other manufacturers of holders and leads have tried to overcome the problem of limited clutch-adaptability by making soft leads the same diameter as hard leads. KOH-I-NOOR, in line with its usual quality standards, persisted in making soft degrees in a correspondingly larger diam-eter, to give them the same high breaking strength as KOH-I-NOOR hard degrees. KOH-I-NOOR, in the past, featured therefore two holders for leads, one for leads from 9H to B, and another one for leads from 2B to 6B. NOW, THE NEW holder with the ADAPTO-CLUTCH takes LEADS OF ALL DEGREES AND ALL DIAMETERS!

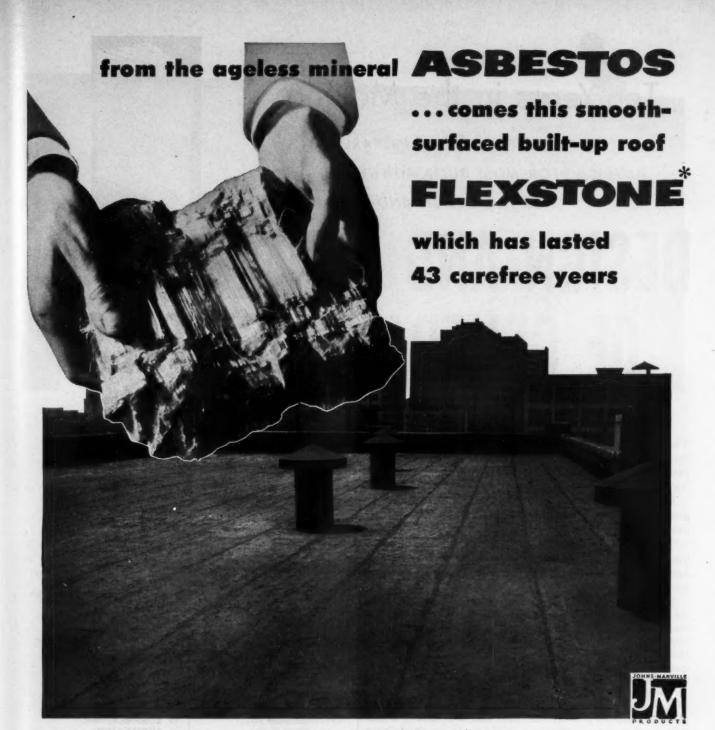
See and buy this sensational New No. 5616 Holder today... \$1.50 each

(No Fed. excise tax) Packed in Individual Slide Boxes

For best results always use Koh-I-Noor #2200 leads available in 17 degrees

### KOH-I-NOOR PENCIL CO., INC.

BLOOMSBURY, NEW JERSEY



The Johns-Manville Flexstone Built-Up Roof shown above was installed in 1911 when the building was erected. For 43 years, the owner reports, it has given continuous service without repairs or replacements.

Because they are made of the mineral, asbestos, the felts of a J-M Flex-stone Built-Up Roof assure lasting service and protection. They will not support combustion. They effectively

resist the drying-out action of the sun . . . won't rot, are weatherproof and need no periodic coating.

J-M Flexstone Built-Up Roofs are smooth-surfaced... permit thorough drainage, make any damage easy to locate and repair. They are engineered to each job... and can be applied on decks ranging from dead level to a pitch of 6 inches per foot.

For complete information about

Flexstone Roofs and J-M Asbestile\* Flashing System that provides thorough water tightness and effective treatment for critical roof areas, see your Approved Johns-Manville Contractor. He's listed in the Classified Section of the telephone directory. Or send for folder BU-51A. Write Johns-Manville, Box 158, New York 16, N. Y. In Canada, write 199 Bay St., Toronto 1, Ont.

Johns-Manville FLEXSTONE Built-Up Roofs

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DECORATIVE FLOORS + MOVABLE WALLS + ETC.

## Ten Years in the Making ...

THE NEW BOOK PREPARED BY

**AMERICA'S FOREMOST AUTHORITIES ON** 

HOSPITAL DESIGN AND ADMINISTRATION



# DESIGN AND CONSTRUCTION OF GENERAL HOSPITALS

a collaborative publishing effort of Architectural Record and The Modern Hospital to present the work of the U. S. Public Health Service

The last ten years have witnessed such revolutionary progress in medical science that the very basic approach to the design of hospital buildings has been completely changed.

Expanded medical services, new diagnostic, surgical and therapeutic techniques have demanded an entirely

new concept of hospital planning.

To meet this challenge, architects, hospital officials and public health authorities working together have evolved far-reaching improvements in design, equip-

ment and facilities.

To examine, interpret, and report these momentous changes, the editorial staffs of two leading professional journals—ARCHITECTURAL RECORD and MODERN HOSPITAL—pooled their efforts with those of the Division of Hospital Facilities, U. S. Public Health Service and the fruits of this effort are contained in this comprehensive new book. This vast fund of planning information

has never before been made available in one place.

"Design and Construction of General Hospitals" presents prototypes of successful hospital design, complete with 30 master plans for hospitals of every size. Each plan is accurately scaled, fully detailed, and visualized in a skillful rendering. Illustrations of fleor plans, site plans, and a variety of charts and tabular data help to provide step-by-step guidance in the planning—from early sketches to completed buildings—of a modern hospital that truly suits the needs of today's most scientific therapy.

This authoritative volume is certain to win regard as the standard reference work on hospital planning for years to come. It is a source of information and planning data that neither hospital administrators nor hospital architects can afford to ignore.

#### PARTIAL CONTENTS

SECTIONS

I. SCHEMATIC PLANS OF GENERAL HOSPITALS

30 separate "pilot plans" for hospitals of various sizes, from 20-bed to 400-bed buildings

II. PLANNING THE STRUCTURE

A. Site Selection
Accessibility
Public Utilities

Nuisance Problems
Orientation & Exposure
Costs
Dimensions
Topography
Landscaping

B, The Building

General Considerations
Traffic: Exterior
Traffic: Interior

C. Circulation Space Corridors Stairways

#### III. ELEMENTS OF THE GENERAL HOSPITAL

A. Main Lobby

ain Lobby
Information & Switchboard
Admitting Office
Business Office
Administrator's Office
Medical Service Office
Director of Nurses' Office
Medical Record Room
Library & Conference
Room
Staff Lounge and Locker
Room
Gift Shop
Personal Toilets

B. Nursing Facilities
Patient Areas
Two-bed Room
Four-bed Rooms
Isolation Units
Psychiatric Room
Treatment Room
Nurses Station

Consultation Room Utility Room Floor Pantry

C. Surgical Facilities

Operating Rooms
Sub-sterling Rooms
Scrub-up Facilities
Clean-up Room
Anesthesia Equipment
Room
Cystoscopic Room
Fracture Room
(Orthopedic)
Laboratory
Darkroom
Instrument Room
Surgical Supervisor's Office
Doctor's Locker Room
Nurses' Locker Room
Closets
Corridor
Central Supply Facilities

D. Obstetrical Facilities
Delivery Rooms
Treatment Rooms
Supply Closet
Labor Rooms

IV. EQUIPMENT AND SUPPLY LISTS

#### A One-Volume Library of Information

Entirely different from any previous book on the subject, "Design and Construction of General Hospitals" represents the combined experience of specialists in six professions:

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	Enclosed find \$ for copy (s) of DESIGN AND CON- STRUCTION OF GENERAL HOSPITALS at \$12.00 per copy. Please send my copy of this new book immediately. Please add 3% Sales Tax for delivery in New York City
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# Toncan Iron Ventilators and Skylights going strong after 26 years

When this commercial garage building was erected in 1928, rustresisting Toncan Iron was used for ventilators, skylights and other sheet metal work. The building owner reports that today, 26 years later, the Toncan Iron sheet metal work is seemingly "as good as new." No repairs or replacements have been necessary during this period.

Decades of service in resisting rust and corrosion are not unusual for Toncan Iron. It is an ALLOYED IRON, containing twice the amount of copper ordinarily used in copper-bearing steels and irons—plus just the right amount of molybdenum to make the copper most effective all the way through. That's why Toncan Iron resists rust better and outlasts all other ferrous materials in its price class.

Toncan Iron is easy to work, too. Punching, cutting, forming, welding or other fabrication have no effect upon its rust-resistance.

You'll find more about Toncan Iron in Sweet's 1954 File  $\frac{3c}{Re}$ —or write us for literature.

REPUBLIC STEEL CORPORATION CLEVELAND 1, OHIO

Export Department: Chrysler Building, New York 17, N. Y.



FOR MORE THAN 40 YEARS... HIGHEST RUST-RESISTANCE OF ALL FERROUS MATERIALS IN ITS PRICE CLASS



#### THE RECORD REPORTS

(Continued from page 348)

chitects — Kohler Hotel, Rochester, Minn.

- 28-30 Annual Meeting, Minnesota Society of Architects Rochester, Minn.
- 31ff National Association for Mental Health; until Nov. 2 — Hotel Carter, Cleveland

November\_

1-5 National Fall Meeting, American

Welding Society — Sherman Hotel, Chicago

- 3-5 Annual Convention, Texas Society of Architects Texas Hotel,
  Fort Worth
- 3-6 Annual Meeting, American Council of Commercial Laboratories

   Roosevelt Hotel, New Orleans
- 6-10 Annual Convention, Structural Clay Products Institute — Hotel de Coronado, San Diego

- 7-8 Annual Meeting, Association of Urban Universities — Pittsburgh
- 8-12 The 39th National Hotel Exposition — Kingsbridge Armory, New York City
- 10-12 Short Course on Church Architecture, offered by the Department of Architecture, College of Fine and Applied Arts University of Illinois, Urbana, Ill.

10-12 The 18th National Time and Motion Study and Management Clinic, Industrial Management Society — Hotel Sherman, Chicago

13-14 Great Lakes Regional Meeting, American Institute of Architects

- 15-16 Annual Convention, National Building Material Distributors Association — La Salle Hotel, Chicago
- 15-16 Fifth National Conference on Standards, American Standards Association — Hotel Roosevelt, New York City

18-20 Annual Convention, Florida Association of Architects — La Coquille Hotel, Palm Beach, Fla.

28ff Annual Meeting, American Society of Mechanical Engineers —
Statler Hotel, New York City

29ff First International Automation Exposition: exhibit on automatic machines, factories and industries under the direction of Richard Rimbach; until Dec. 3—242nd Coast Artillery Armory, 14th St. off Sixth Ave., New York City

#### December\_

2-7 The 21st National Exposition of Power and Mechanical Engineers, sponsored by the American Society of Mechanical Engineers — Commercial Museum, Philadelphia

#### OFFICE NOTES

#### Offices Opened\_

- Walter Frederick Noyes Jr., A.I.A., has opened offices at 1055 Madison Ave., New York 28, N Y. Mr. Noyes was formerly with the architectural firm of Skidmore, Owings & Merrill.
- Sargent, Webster, Crenshaw & Folley, Architects, recently opened a branch office at 140 E. First St., Corning, N. Y. Herbert Boerner, A.I.A., is in charge.
- The new firm of Smith-Hanlon-Zurheide-Levy, Inc., Consulting Engineers, have announced the establishment of offices at 3926 Lindell Blvd., St. Louis 8, Mo.

(Continued on page 356)



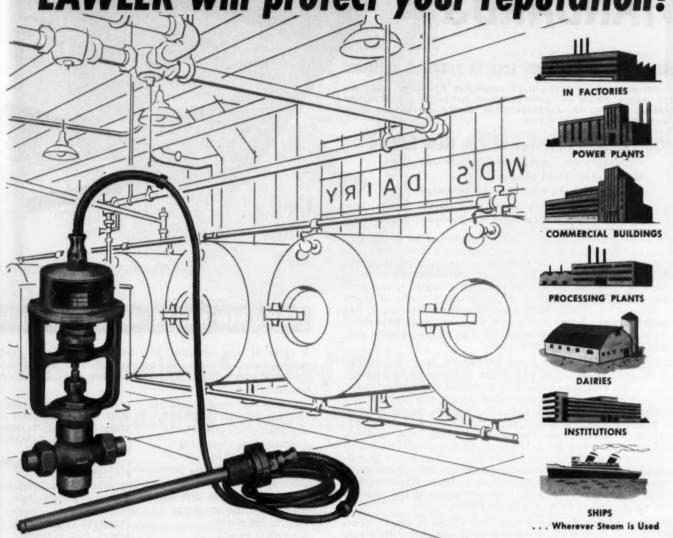
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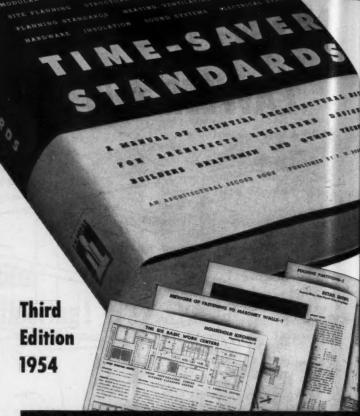
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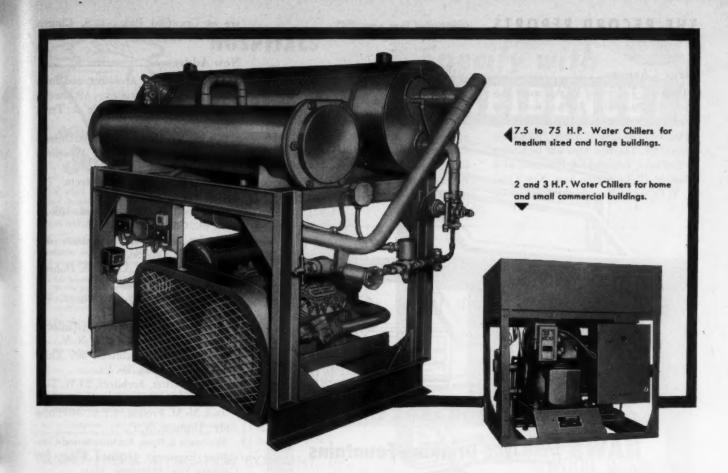
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#### THE RECORD REPORTS

(Continued from page 352)

Firm Changes\_

• Lester S. LaPierre, A.I.A., and Clarence B. Litchfield, A.I.A., have announced the formation of a partnership to succeed the firm of Alfred Hopkins & Associates. The new firm will be known as LaPierre, Litchfield & Partners, with offices at 415 Lexington Ave., New York, N. Y. Other partners in the firm include

Arthur H. Fuller, Gannett Herwig, W. Frank Bower, Arthur E. Dore, Ben John Small, and Alfred A. Rothman; these men all were associates of the old firm.

• Palmetto Associates, Architects & Engineers, is the name of the firm formerly known as Race, Forrester & Epting; Avery W. Wood Jr., Architect, is a new member of the firm. Offices

are at Crawford Bldg., 8 S. Church St., Greenville, S. C.

#### New Addresses.

A. John Brenner, Architect, and John Brenner and Associates, Architects-Engineers, Room 702, Title & Trust Bldg., Phoenix, Ariz.

George B. Cunningham, Architect, 203–204 Methodist Bldg., Wheeling, W. Va.

Ferris & Erskine, Architects, 777 LaRue Ave., Reno, Nev.

C. Melvin Frank, Architect, 185 E. State St., Columbus 15, Ohio.

Charles H. Gillin, Architect, 389 Queens Ave., London, Ont.

Victor Gruen, A.I.A., 135 S. Doheny Dr., Beverly Hills, Cal.

Katz and Metsky, Architects, 875 Broad St., Newark, N. J.

Steinhardt & Thompson, Architects, 41 E. 50th St., New York 22, N. Y.

Lewis Stettler, Architect, 305 Third St. W., Huntington, W. Va.

Samuel Pelton, Architect, 29 W. 57th St., New York 19, N. Y.

Jack McM. Pruden, A.I.A., 310 Snow Bldg., Durham, N. C.

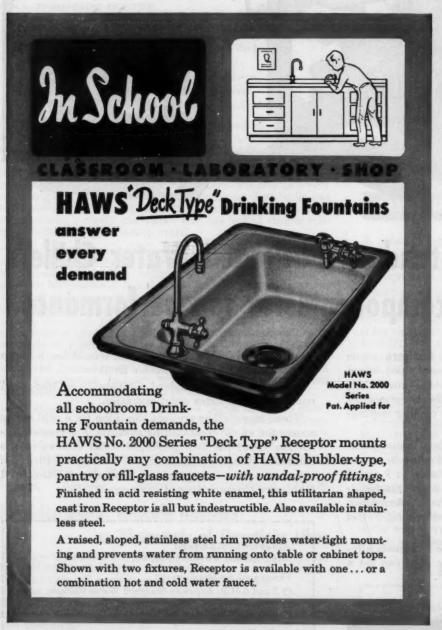
Waisman & Ross, Architects and Consulting Engineers, Graham Bldg., 399 Graham Ave., Winnipeg, Man.

#### Harvard Offers New Courses

Three new courses in urban design will be offered this year by the Harvard Graduate School of Design, it has been announced by Dean José Luis Sert. The history of urban design will be taught by Visiting Professor Sigfried Giedion. Dean Sert will teach a course in urban design with the help of Assistant Professor Jean Paul Carlhian and Hideo Sasaki; this course is to be an "expanded" version of Harvard's course "Design of Cities." Dean Sert will also teach Advanced Architectural Design, which will include projects in urban design; Assistant Professors Carlhian, Sasaki and Ronald Gourley will also teach.

This summer the Graduate School of Design offered a six-weeks course on "Plants as Factors of Design." Taught by Stanley Hart White, Visiting Professor of Landscape Architecture, the course included, according to the school's outline: Introduction to Science of the Natural Environment; Movements Within the Natural Base; Patterns from Processes of Nature; Areal Distributions of the Natural Base; and Sublimation of Nature in the Design of Landscape.

(More news on page 358)



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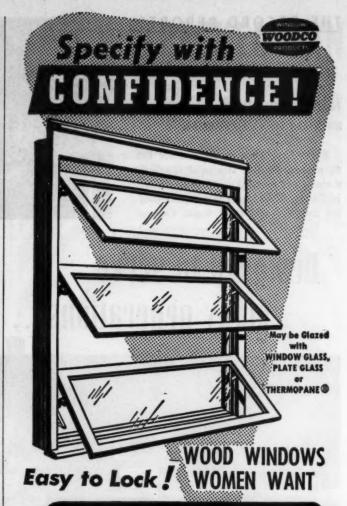


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#### THE RECORD REPORTS

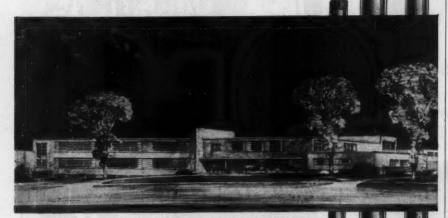
(Continued from page 356)

#### KANSAS CITY TO BUILD \$8 MILLION HOSPITAL

Plans have been announced for the \$8 million Baptist Memorial Hospital, a nine-story medical center to be erected in Kansas City, Mo. The complete project calls for a 600-bed Acute General



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Hospital and an adjacent 200-bed Maternity Hospital, plus a doctors' office building, a nurses' school and dormitory and a staff house. The first unit, already under construction, will be one of the T-shaped wings of the general hospital. Cost of this unit is estimated at \$2,800,-000.

#### **Bomb-Proof Operating Rooms**

This building will have, in addition to its nine stories, two underground floors which will house "bomb-proof" operating rooms. These six rooms, instead of being placed in a straight line, will be set in a square surrounding common service rooms—sterilization, scrub-up rooms, anesthesia preparation. On the same level will be located X-ray facilities, diagnostic and therapy units, a central laboratory and physical therapy departments. An emergency suite on the next upper level will contain two more operating rooms.

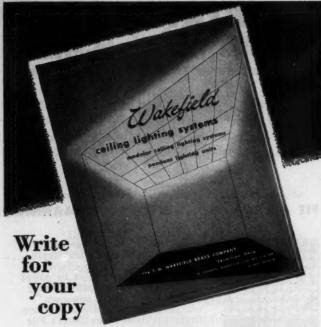
Patients' rooms will be located on the third through eighth floors, each floor normally taking care of 49 patients. In the case of emergencies, solariums on each floor can be utilized as extra bedrooms.

Until the maternity hospital is built, obstetrical facilities will be located on the second floor of the general hospital. The top floor will provide room for 29 internes.

At the rear of the hospital, a separate building will contain the laundry, the boiler house and maintenance equipment. This building will be reached from the hospital by a tunnel. Mechanical equipment such as ventilating machinery, water tank and elevator machinery will be located in a penthouse on the general hospital.

Architects were Turnbull-Novak Inc. and the Los Angeles firm of Welton Becket, F.A.I.A., & Associates.

(More news on page 362)



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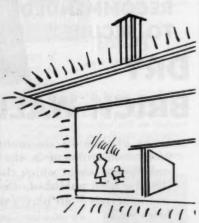
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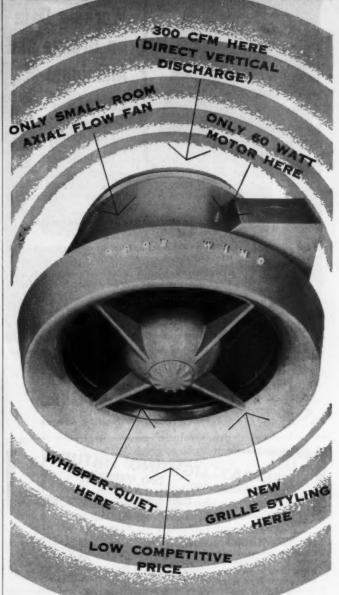
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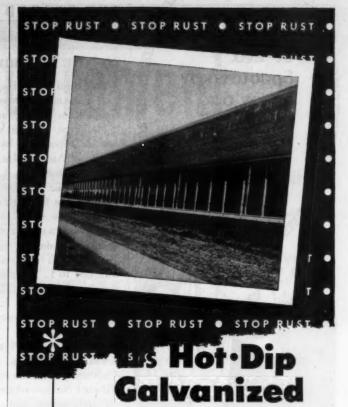
BURNHAM PACEMAKER\*, the low cost, night quality, oil burning boiler is another good example of the long-lasting ruggedness of Burnham equipment. PACEMAKER's vertical fire travel over hundreds of heat grabbing fins makes it a fuel miser. PACEMAKER is made of cast iron; comes factory-assembled, cutting installation costs; makes available year 'round domestic hot water. BURNHAM makes all size boilers, for every heating job and for all fuels.

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#### THE RECORD REPORTS

(Continued from page 358)

#### ON THE RECORD-

• The Beaux-Arts Institute of Design has announced winners in its spring competition among architectural students. First prize in advanced design problem, sponsored by the Marble Institute of America Inc., went to T. G. Walsh of Oklahoma A & M. J. Carney Jr., Catholic University of America, received the first prize in intermediate design; this prize was donated by ARCHITECTURAL RECORD. First prize in elementary design, sponsored by the Kenneth M. Murchison Fund, was awarded to L. Partridge, Catholic University of America. The Whitney Warren Prize went to L. L. Ketterer, also of the Catholic University of America.

• The Francis J. Plym Traveling Fellowships have been awarded to two University of Illinois graduates: Richard Edward Nevara received the fellowship in architecture and Delburt Everett Allison won the architectural engineering fellowship. The fellowships, for \$1700 each, are for travel and study in Europe.

• The 1954 LeBrun Traveling Scholarship has been awarded to Brian John Crumlish, it has been announced by the New York Chapter of the American Institute of Architects. The scholarship gives Mr. Crumlish, a graduate of the University of Illinois, a year's study and travel in Europe.

• The Architectural League of New York, in conjunction with its exhibit "Building Your Home, 1954," awarded certificates of merit to house designs done by architects for builders. For houses that sell for over \$18,000, the award was given to Allen and Edwin Kramer, Architects and Leven-Sagner Homes, builders, and to George Nemeny, Architect, and builders Chess & Siegel. Architects Sherwood, Mills and Smith and Huntley Estates Inc., builders, were winners in the \$13-18,000 category, while the prize for houses under \$13,000 went to architect Olindo Grossi and the Westhampton Realty Company.

 Columbia University has announced the eight recipients of this year's William Kinne Fellows Memorial Traveling Scholarships. The winners, all graduates of Columbia's School of Architecture, are: Lowell Brody, Richard J. Fleisch-(Continued on page 366) school architects:

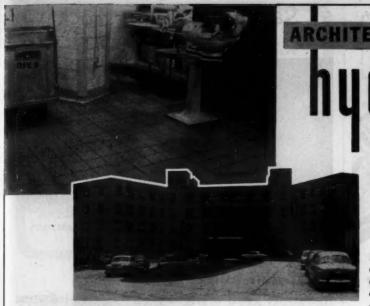
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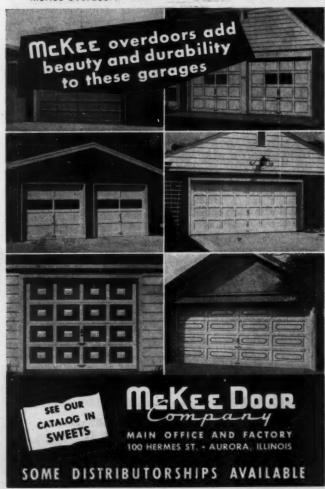
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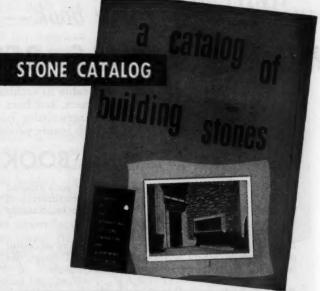


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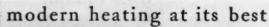
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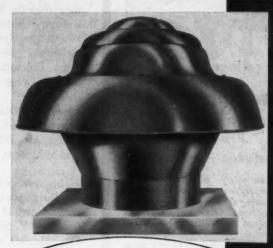
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#### THE RECORD REPORTS

(Continued from page 362)

man, Eraine R. Freeman, Robert B. Kaemmerlen, Harry B. Mahler, Samuel R. Mozes, Herbert B. Oppenheimer and Seymour J. Schulman.

- The Joint Commission of Church Architecture and the Allied Arts of the Protestant Episcopal Churches have announced the winners in a competition they recently conducted among architectural students. First prize was awarded to Howard Roth, Washington University; second prize, to Bernard Kohn, Columbia University; and third prize, to George Dazilia, Columbia.
- Lawrence Grant White, F.A.I.A., has been named a Chevalier of the Legion of Honor. Mr. White is a member of the firm of McKim, Mead & White.
- The New York Chapter of the American Institute of Architects has awarded its 1954 Arnold W. Brunner Scholarship to Ralph E. Myers, A.I.A., of Kansas City, Mo. Mr. Myers will use the scholarship to edit a series of lectures entitled "Architecture U. S. A."
- The American Academy in Rome has announced the award of eight Rome Prize Fellowships, each providing for a year's study at the academy. Fellowships in architecture were received by James A. Gresham, of Enid, Okla., and Robert Venturi, of Rosemont, Pa.
- Winners of ten \$1000 scholarships have been announced by the American Institute of Steel Construction. The scholarships are presented to high school seniors planning to study civil or architectural engineering. This year's winners: Donald W. Iltis, Mitchell, S. Dak.; Norman W. Mahan, Tulsa, Okla.; Gard Meddaugh, Oakland, Calif.; John R. Mertens, Oak Park, Ill.; Alvin P. Mullery, Providence, R. I.; Richard A. Rosenthal, Newark, N. J.; Edwin H. Schoen, Brooklyn, N. Y.; Donald J. Shurilla, Allentown, Pa.; James A. Staley, New Milford, Ohio; and George L. Stern, New York City.
- The Washington University School of Architecture has announced the award of its \$3000 James Harrison Steedman Fellowship in architecture to Tyrus Bildner, a 1953 graduate of the school. The fellowship is awarded for travel abroad.

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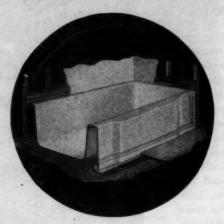
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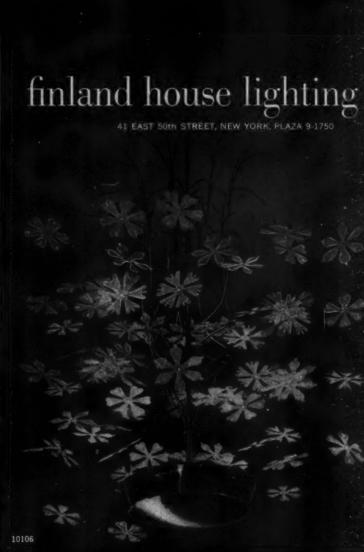


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#### REQUIRED READING

(Continued from page 48)

the misunderstandings existing in the United States about the meaning and possible political implications of free art expression. Strangely, a misguided public opinion tends to believe in a dangerous philosophy of "national normalcy" and has come to consider modern art as "communist, subversive, abnormal," an effective vanguard of totalitarianism. It is hardly necessary to point out that these critics refer to the same kind of art which was suppressed by the Nazis as "degenerate, Bolshevist, Jewish" and is being suppressed now by the Soviets as "capitalistic, bourgeois, formalistic." Which is the course to take in the face of this insolvable paradox? Mr. Lehmann-Haupt leaves us in no doubt. His conclusion is that "modern art is a powerful symbol of antitotalitarian belief." It is the mission of his book to make us understand the incalculable importance of free artistic expression to the preservation and the future growth of individual freedom.

#### THE OLD ARGUMENT

Form and Reform. By Bertram Hume. Haleyon Press (London, England) 1954. 5½ in. by 8½ in., 190 pp.

The author discusses the philosophy of Ruskin, Philip Webb, Ebenezer Howard, Patrick Geddes and Le Corbusier; communism versus aristocracy in art; romanticism versus classicism; and the effect of machine age on architecture.

The strength of his conclusions lies in his belief that classic design (the opposite of romanticism) is the most efficient form of design because it produces unity and strength. He believes that since "architecture is an expression of society it is the business of society to find the ideal relation between order and the individual. Individuality is the dynamic (architecturally speaking) vertical thrust which separates one personality from another, and which combats the horizontal and uniting force of order. Although antagonistic, these forces are complementary. Neither can exist without the other. Order alone is sterile; individuality alone is suicidal. The ideal relation is a balance. Civilization is an equilibrium, perhaps even an armed neutrality.'

He also concludes that "To judge works of architecture fairly, the observer must therefore know the condition of (Continued on page 374)



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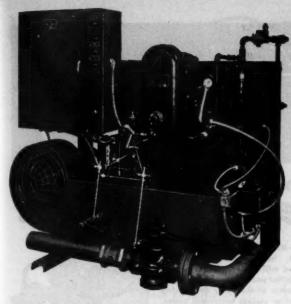
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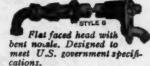
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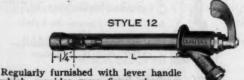
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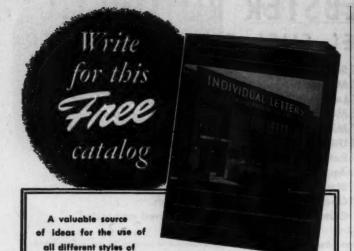
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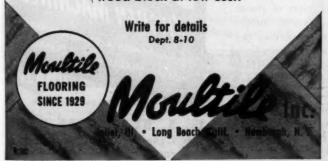
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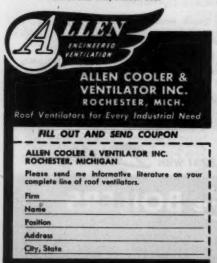




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#### REQUIRED READING

(Continued from page 370)

society at the time they were designed, so that we may know under what practical or theoretical compulsions their designer worked. . . . "

And the author brings us back to the squirrel-cage question: Civilization and the problem not of whether it should be free or organized but whether it should be more free or more organized. It is Mr. Hume's theory as it was Ruskin's that the greatest periods are those in which the individual has felt himself most free but in which at the same time the individual was yet prepared to recognize the validity of the principles of right. Such periods declined when the romantic influence ceased to admit the authority of these principles or conversely when they were strangled by them.

This is a thoughtful book, well organized and calculated to provoke further argument on the seemingly endless debate between the romanticist and the classicist. — M. B.

#### SWISS SCULPTOR



Arnold' Huggler-Şkuldturen. By Gubert Griot. Schweitzer Spiegel Verlag (Zurich, Switzerland) 1954. 9 in. by 11¾ in. 47 pp, illus. \$5.00 approx

Arnold Huggler (1894—) is a popular Swiss sculptor probably best known for his animal sculptures, although this progressive study of the artist's works from 1920–1953 shows his competence as a sculptor of the human body, portraits and monumental works as well.

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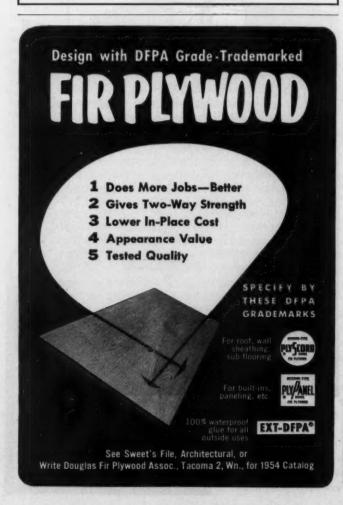
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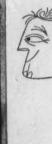
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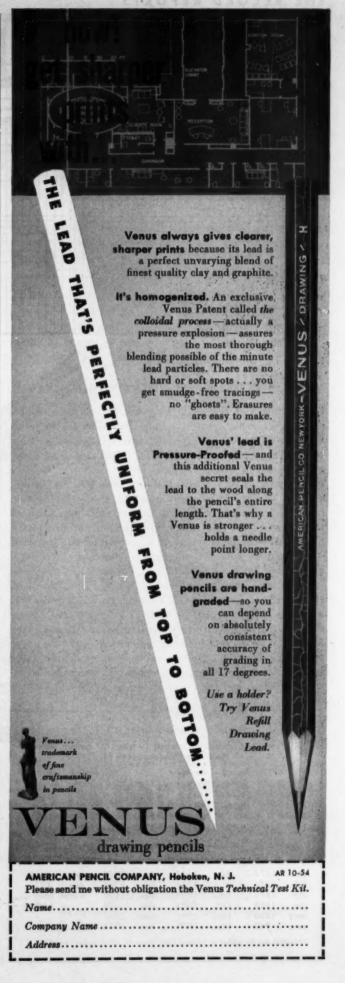
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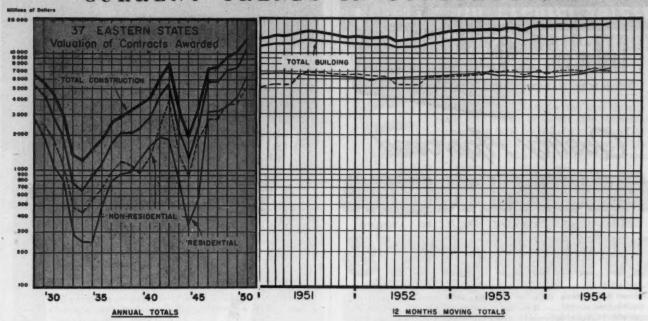


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#### THE RECORD REPORTS

#### CURRENT TRENDS IN CONSTRUCTION



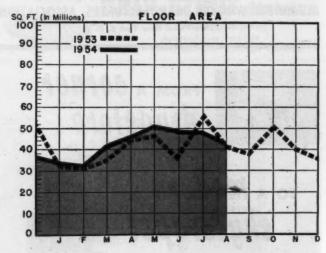
#### MORE RECORDS: ALL CATEGORIES HIGH

CONSTRUCTION IS CONTINUING ITS STEADY PROGRESS toward a new all-time-high annual volume, according to the latest figures on dollar volume of contracts awarded in the 37 eastern states as reported by F. W. Dodge Corporation. The eightmonths total of \$12,660,949,000, 14 per cent over 'the first eight months of 1953, established new first-eight-months records for all three basic construction categories. In the nonresidential category, at \$4,600,072,000 up eight per cent from the like period last year, the hospital \* and institutional classification showed the strongest percentage gain - 27 per cent -followed by religious buildings, 25 per cent; educational and science buildings, 24 per cent; commercial buildings, 20 per cent; social and recreational buildings, 13 per cent; and public buildings, 6 per cent. Manufacturing buildings showed a decline (26 per cent), as did the "miscellaneous nonresidential" classification. The residential category, at \$5,418,-867,000 up 23 per cent from the 1953 period, had increases in one-family dwellings for owner occupancy, one-family dwellings for sale or rent, dormitories and hotels; declines in apartment buildings and two-family dwellings.

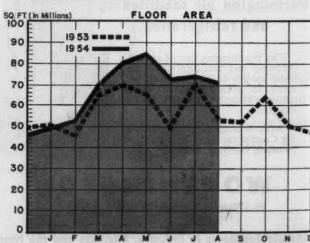
	НО	SPITAL	BUILDING	-SELE	CTED	YEARS	
F. W	. Dodge		ation Contro or Area (tho			7 Eastern	States)
		Annual	Monthly			Annual	Monthly
Year		Total	Average	Year		Total .	Average
1929	1	9,494	1625	1950		41,352	3446
1935		5,200	433	1951		35,812	2984
1943	1	9,932	1661	1952		23,200	1933
1947	1	8,204	1517	1953		20,923	1744
			Monthly	y Totals			
	1	953				1954	
Jan.	1674	July	1485	Jan.	2263	July	2459
Feb.	1254	Aug.	2634	Feb.	2246	Aug.	1211
Mar.	1873	Sept	. 1496	Mar.	1199	8-mos.	total-
Apr.	1189	Oct.	3006	Apr.	1494		16,207
May	1450	Nov.	1946	May	2987		
June	943	Dec.	1973	June	2348		

Charts by Dodge Statistical Research Service

#### RESIDENTIAL BUILDING (37 EASTERN STATES)



#### NONRESIDENTIAL BUILDING (37 EASTERN STATES)



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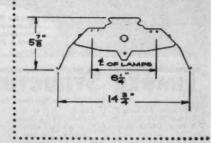
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